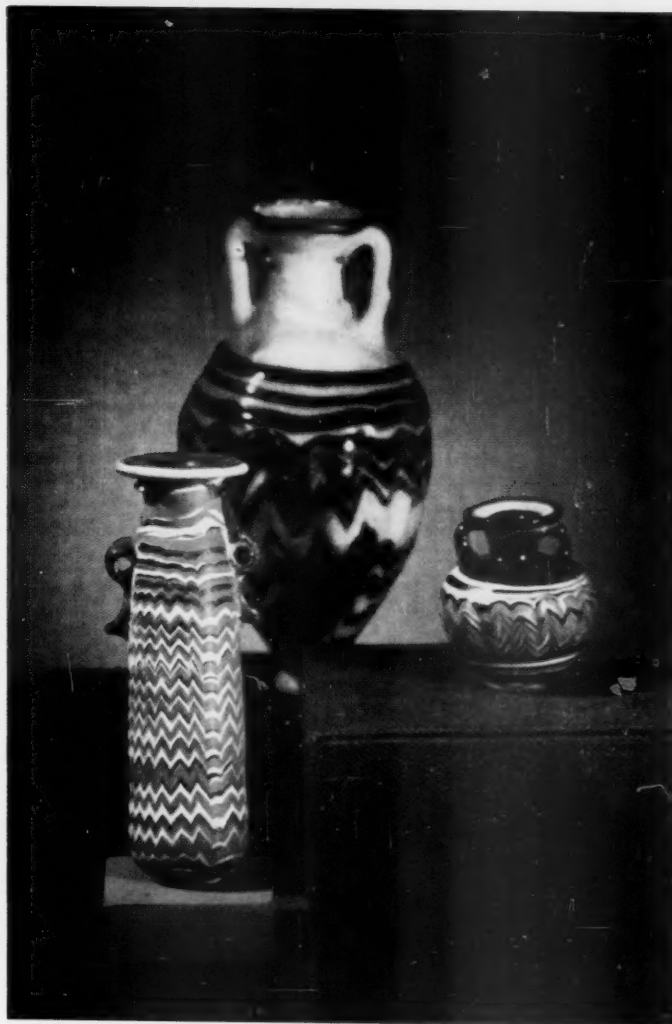


ARCHAEOLOGY



ANCIENT GLASS

Winter 1952

VOLUME 5 NUMBER 4

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Villa Vergiliana, Cumae

The Vergilian Society of America announces its summer program for 1953, centered at its Villa Vergiliana at Cumae, Italy, near Naples. Teachers and students of the Classics or ancient history will find its facilities and program of great interest and value. Lectures are given on the spot at Cumae, Pompeii, Herculaneum, Capri, Paestum, Baiae, and the great Naples Museum by the leading Italian authorities—Professors Maiuri, Elia, Sestieri, and others. Convenient modern living accommodations at the Villa, and easy access from it to the many sites of classical interest in that historic area make the Vergilian Summer School a memorable experience. It affords unique opportunity for study of Roman life and art, and provides background of special inspirational quality for teachers.

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Rev. Raymond V. Schoder, S.J., at West Baden College, West Baden Springs, Ind.

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THE MEDIAEVAL ACADEMY OF AMERICA

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Winter 1952

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THE NEW SHAFT GRAVES OF MYCENAE

By George E. Mylonas

Professor of Archaeology, Washington University

and John K. Papademetriou

Ephor of Antiquities of the Argolid



Fig. 1. The new Grave Circle found at Mycenae near the Tomb of Clytemnestra.

MYCENAE HAS EXERCISED A GREAT FASCINATION ON THE MINDS OF PEOPLE THE WORLD OVER AND throughout the ages. The words of the great bard of the Trojan wars, "Mycenae rich in gold," have often been repeated in ancient and modern times, signaling the yearning for its discovery; and the fate of its great king Agamemnon, as immortalized by the most gifted tragedians of Hellas, has filled innumerable hearts with awe and wonder. The remains of Mycenae were among the first to draw the attention of Greek and foreign scholars when it became possible, through the liberation of Greece from the Ottoman yoke, to establish a service whose aim it was to take care of antiquities.

Thus the so-called Treasury of Atreus and the Lions' Gate were among the first monuments to be tended by the Archaeological Society of Greece after its establishment in 1837, and the entire site of Mycenae was at an early date adopted for investigation by the same

To the members of the Council of the Greek Archaeological Society and to Professor A. Orlandos, its Secretary, we owe a deep debt of gratitude for placing at our disposal the income from the bequest of the late Phoebos Pharmakopoulos of Egypt and for their interest in the work. To the members of the Advisory Committee, to Mr. N. Tombazis, our photographer, and to all our collaborators we express here our deep appreciation.—J. K. P. and G. E. M.



Fig. 2. Two of the splendid gold objects from Grave A. Above, an ornament; below, a bracelet in repoussé.

Society. However, the fame of Mycenae leapt skyward in 1876 when HEINRICH SCHLIEMANN discovered within the citadel the Grave Circle with five shaft graves filled with funeral gifts of unsurpassed splendor. STAMATAKIS' discovery of the sixth shaft grave and TSOUNTAS' exploration of the chamber tombs and of the citadel, crowned by the uncovering of the palace of the Pelopids, seemed to exhaust the possibilities for great discoveries at Mycenae.

THESE EARLY investigations made it possible to determine the existence on the mainland of Greece of a brilliant civilization in the second half of the second millennium, from about 1600 to 1100 B.C., the details of which were most clearly set out in TSOUNTAS' monograph on the *Mycenaean Age*. The discoveries of Sir ARTHUR EVANS in Crete and those of Professor A. J. B. WACE at Mycenae itself have added considerably to our knowledge of the Mycenaean civilization, which now is as well known as that of the Archaic period of historic Greece. In our day, however, specialists began to think that the heroic days of excavation at Mycenae were over, that great discoveries

there were a thing of the past. Interesting finds indeed were made annually, such as the first inscribed clay tablet, the house of the oil-merchant, or the rooms packed with vases on the northern slope of the city area; but great finds were not to be hoped for. When this conception began to crystallize, the old site yielded another of its buried treasures to upset human calculations and beliefs. In November 1951, when a shaft grave was investigated beyond the citadel walls, a bright new era of discovery dawned at Mycenae.

The new find follows the pattern established in Greece by a number of older famous discoveries. The Greek Service for the preservation and restoration of ancient monuments, under the direction of Professor A. ORLANDOS, had restored the dome of the so-called Tomb of Clytemnestra. More earth was needed to cover the stone structure and restore the mound which originally stood over the dome. The surrounding area could provide that additional material. As the earth

was being removed a funeral stele (monument) made its appearance only ten meters to the west of the top of the tomb and pointed out the existence of a grave below it. The grave was cleared and proved to be a shaft grave similar to those found by SCHLIEMANN in the citadel. A trial excavation, lasting a few days in January 1952, enabled us to uncover a section of a circular wall that surrounded the area within which the shaft grave was found. (A report on this by J. PAPADEMETRIOU will appear in the forthcoming *Praktika* for 1951.) Since that grave was not in the center of the circular area, it became evident that within the area more graves had to be found. Indeed, all signs pointed to that fact and with understandable impatience we waited for the dry season when real excavations could be undertaken. Meanwhile, the discovery of the first new shaft grave became known and high hopes were raised for a renewal of great discoveries at Mycenae.

For not only were more shaft graves to be excavated, but also the dean of Mycenaean specialists, Professor WACE, was to resume his excavations at the site in the summer.

When in 1876 SCHLIEMANN discovered and excavated the five shaft

graves in the citadel, excavation methods were in their infancy. Many details were overlooked, and scientific accuracy was often sacrificed for the quick possession of valuable objects. Consequently SCHLIEMANN's finds created a number of problems and posed even more questions over which archaeologists have been struggling for a good many years. The new shaft graves offered a great chance for obtaining answers and even for setting SCHLIEMANN's discoveries in their correct perspective. Realizing this fact, the Council of the Archaeological Society of Greece, under whose jurisdiction the site of Mycenae has remained, decided to place the excavation in the hands of the Ephor of the district, Dr. J. PAPADEMETRIOU, and appointed for the new undertaking an advisory committee composed of Professors A. KERAMOPOULLOS and SP. MARINATOS of the University of Athens and Professor GEORGE E. MYLONAS of Washington University, St. Louis, Missouri. Professor MYLONAS took an active part in di-

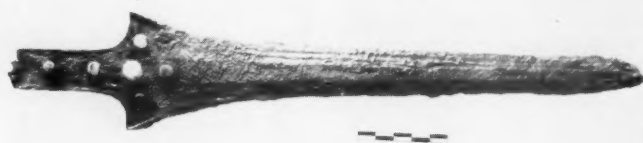


Fig. 3. The bronze dagger found in Grave A, with a spiral pattern engraved on the blade.



Fig. 4. Grave B, showing a single skeleton with gold armbands, a knife and seven vases, laid on a pebble floor.

recting the excavation. Mr. D. THEOCHARIS and Mr. S. CHARITONIDES, of the Greek Archaeological Service, also participated in the work and the former is making all the drawings. Work began on July 3 and was continued through the summer months. The necessary funds are being provided by the Greek Archaeological Society.

The existence of the Grave Circle is now established. Not all of its periphery is preserved; part of its eastern section was destroyed when the tholos of the tomb of Clytemnestra was built in the latter half of the fourteenth century B.C. Its southern section was built on a slope and apparently collapsed in the past. When the modern road that leads to the citadel was constructed, a good part of the western section was destroyed, and the wall was again damaged when the modern aqueduct, which carries the water of Perseia, was laid over its northwestern corner.

However, enough of the Grave Circle has survived to prove its existence (FIGURE 1). It was built of large blocks, almost in the Cyclopean style, has a width averaging 1.55 meters and a diameter of 28 meters. In size it is almost equal to the Grave Circle of the citadel. Thus far only half of the area it enclosed, the northern half, has been investigated and only a section of it has been completely excavated; but in that half eight or nine graves have been located. More will be uncovered in the unexcavated southern half which has been reserved for future investigation. Thus, more graves will be found in the new Grave Circle than those known in the old. Since the shaft graves found by SCHLIEMANN are usually indicated by Roman numerals, we have adopted the letters of the Greek alphabet in numbering the new shaft graves outside the citadel. Grave A, therefore, is the one found in November 1951. It contained two skeletons—one lying stretched out, the other bundled up at the side of the grave—a good number of vases, three swords, one dagger, a number of gold ornaments, and a silver jug (FIGURES 2 and 3). Thus far we have explored graves B, Γ, Δ, Ε, Ζ, Η, and Θ.

AS THE NAME implies these graves have no architectural character; they are merely rectangular shafts cut in the soft conglomerate. At some distance from the top, and at a shorter distance from the floor, there is a roof over which earth was poured after the burial was consummated. The construction of the roof differs from grave to grave, but its existence at a point below the half-way mark of the depth of the grave is

definitely proved. In grave Γ, for instance, along the longer sides a narrow wall was built of flat unworked stones reaching to a height of 0.70 m. from its floor. On these walls, and at short distances from each other, were placed heavy wooden beams whose remains we found. Over the beams and crosswise to them were placed reeds which

in turn were covered by a thick layer of waterproof clay that protected the grave from water seepage. The roof of grave B was constructed in a similar manner, while



Fig. 5. Two characteristic vases from Grave B.

that of E was covered with numerous flagstones. The evidence obtained from the new shaft graves is complete and will enable us to figure out the way in which SCHLIEMANN's shaft graves were roofed.

The variety which characterizes the mode of roofing is also present in the contents of the graves. Grave B, the first we cleared in our regular campaign, contained but one skeleton stretched on its back (FIGURES 4 and 5). Above its head were found five vases and in the southwest corner beyond its feet two more. Around its left arm a gold band still adhered to its original position, while another band was found by its right forearm but lying on the pelvic bone. A short broad knife was found lying over its right elbow, and some narrow ribbons of electrum appeared near its left wrist. The floor of the grave was covered with pebbles.

Grave Γ, the largest thus far explored, contained four skeletons (FIGURE 6). One of them, perhaps buried last, lies stretched along the long western side of the grave and occupies almost half its width. Its position is very strange, for its feet are bent quite far apart, and in the same way both hands are placed so as to form a wide arc with the body. To obtain sufficient room for this burial, the bodies previously interred were pushed somewhat toward the eastern side of the grave. Thus the second skeleton is lying over the third on that side. The fourth skeleton lies in the area below the feet of the first, second and third, at right angles



Fig. 6. (Above) The largest grave (Γ), with four skeletons. The rich furnishings include an electrum mask (Fig. 7), swords, daggers, vases, gold cups and ornaments.

Fig. 7. (Lower left) Fine electrum mask from Grave Γ.

Fig. 8. (Below) Gold cup and ornaments from Grave Γ.





Fig. 9. Vases of bronze and clay as they were found in Grave E, a small grave which contained one skeleton.

to them, and along the shorter southern side.

Rich furnishings were found in situ beside these skeletons, while in the northwest corner of the grave, above the head of the first skeleton, were found more gifts neatly packed. Among the latter was a mask of electrum that has affinities to the masks found by SCHLIEMANN but looks more primitive (FIGURE 7), a number of short swords and daggers, a gold cup, a gem with the head of a bearded man engraved on it, and a wooden box covered with silver plate. The furnishings found beside the skeletons include another gold cup bearing a grooved decoration (FIGURE 8), some nine bronze swords and daggers, on a few of which can be seen engraved decoration, a halberd, three alabaster and two ivory sword pommels of the known Mycenaean type, a variety of gold bands and head ornaments, and nine vases. Of the latter the most interesting is a jug that would bring the date of the last burial to the time of the shaft graves of the citadel. The floor of the grave was covered with the usual layer of pebbles and on these the bodies were laid. There can be no doubt that grave T is

a family grave which was opened at least four times in the course of its use. These operations were indicated by the fill of the grave, which seemed very much worked and contained a quantity of sherds from which we were able to piece together some forty more or less complete vases. Practically all belong to the Minyan and matt-painted varieties of the Middle Helladic period (2000-1600 B.C.) and a few exhibit interesting influences of the contemporary Phylakopi style.

Grave E could be called the grave of Bronzes, because among its funeral furnishings bronze vases predominate. In its northwest corner we found one, almost 80 centimeters high, lying on its side, a position it attained when it was knocked down by the falling roof. Near it three large clay vases were found broken, while projecting from its opening a well preserved bronze jug was cleared (FIGURE 9). Below it and in the jar were found two monochrome clay vases. It is interesting to remark that a similar but smaller jar containing a bronze jug was found by SCHLIEMANN in shaft

grave IV of the citadel. A bronze jug of delicate workmanship was found in the southeast corner of the grave, while a flat, two-handled bowl of bronze occupied the southwest corner immediately above the area of the skeleton. This was laid in a strongly flexed manner and its bones were somewhat disturbed by the fallen slabs of the roof of the grave. In a position corresponding to the back of the skull a mass of gold ornaments was uncovered. Their exact nature has not yet been determined, since they have just been discovered, but they seem to be mostly bands decorated with linear designs executed in repoussé.

TWO BODIES lying in an extended position were found in grave Δ, along its long eastern and western sides. With them



Fig. 10. Gold and ivory handle of bronze sword from Grave Δ.

were uncovered two swords, a knife, a single-handled bronze bowl, two clay vases, and a silver cup. One of the swords has an ivory pommel; the other, an ivory pommel and a gold handle (FIGURE 10) reminiscent of the one found by SCHLIEMANN in shaft grave IV. The clay vases are typical Late Helladic I ware and indicate that at least the last burial was placed in the grave at that period.

Graves H, Z, and Θ are much smaller and each contained but one skeleton in a strongly flexed position. In grave H were found five vases and a bronze knife (FIGURE 11); in Z four vases and a sword with an ivory pommel. Grave Θ was despoiled when the village aqueduct was laid through the circle. All three graves, in their size and single burial, recall the Middle Helladic graves found at Eleusis this spring (see *Archaeological News*).

Over his shaft graves SCHLIEMANN found a number of grave stelai but was unable to determine how they were set. Some stelai were found over the new shaft graves, and at least one of them will help us determine the way in which such monuments were set. Over a grave, not as yet excavated, was found the base illustrated in FIGURE 12. The lower part of the stele it supported is still in its original position. Over

grave A a complete stele was found, bearing a bull-hunting scene deeply engraved on its face. [For an illustration of this, see *Bulletin de Correspondance Hellénique* 76 (1952) 220, fig. 20.] That stele was supported by a base similar to that in FIGURE 12. Two stelai were found over grave Γ, but not in their original position. One of them is covered with relief sculpture, a good deal of which was unfortunately destroyed at a later date when the stele was cut to serve as a base (FIGURE 13). However, we can still see the spirals which decorated its upper half and the figured compositions which covered the lower part. The latter included a warrior brandishing a broad sword against a fallen an-

tagonist, and two lions apparently standing on their hind legs.

The new shaft graves of Mycenae have given us not only a most valuable collection of works of art but a wealth of information that will help solve a good many of the problems raised by SCHLIEMANN's excavations. Thus they prove untenable Sir ARTHUR EVANS' theory that the shaft graves in the citadel were meant to serve as repositories of the bodies and treasures of kings at

first buried in the tholos tombs. For now we have regular shaft graves made especially for the burial of people of note. Again we can no longer maintain that the rulers of Mycenae in that early age were Minoans, since in our graves we find no Minoan relics or even strong Minoan influence. As a matter of fact, the size of the skeletons uncovered, ranging from 1.70 to 1.85 meters in height, prove them Helladic and not Minoan in origin. But the finds will naturally raise the question of the identity of their occupants. That, we are afraid, will remain unanswered.

It is true that Pausanias seems to provide an answer, but his answer cannot be accepted. This traveler visited Mycenae about the middle of the second century of our era and kept in his diary an account of all he was shown and told by the inhabitants of the

famous city. The fortification walls, the Lions' Gate, the treasuries of Atreus and his children are well described in his second book. But among the wonders of Mycenae he included the graves of Agamemnon and his followers whom Aegisthus slew after their return from Troy; these he saw in the citadel of Mycenae. According to his record, he saw, beyond the citadel at a short distance from the walls, another group of graves—those of Clytemnestra and Aegisthus, who were deemed unworthy of burial within the citadel.

THERE CAN BE little doubt that the shaft graves excavated by SCHLIEMANN were the ones attributed



Fig. 11. Contents of Grave H including five vases and a bronze knife.

Dimensions of the graves:

Grave B—length 2.28m., width 2.60m., depth 2.95m.

Grave I—length 3.80m., width 2.80m., depth *ca.* 3.20m.

Grave Δ—length 3.25m., width 2.55m., depth 1.60m.

Grave E—length 3.25m., width 2.20m., depth 2.85m.

Grave Z—length 1.65m., width 1.10m., depth averages 0.60m.

Grave H—length 1.35m., width 0.62m., depth averages 0.65m.

to Agamemnon and his followers by the peasants of Mycenae in the days of its decline; there is a good possibility that the new shaft graves, found only a hundred meters from the Lions' Gate, are those once attributed to Clytemnestra and Aegisthus. Of course we now know that neither group can be attributed to those legendary figures, for both antedate the Trojan era by a number of centuries. And so the identity of the occupants of the graves remains unsolved.

There is another aspect that gives rise to speculation. The new shaft graves belong to the closing years of the Middle Helladic period and seem to cover a short span of years from about 1650-1500 B.C. They are well equipped with valuable furnishings that contrast strongly with the paucity of gifts usually found in Middle Helladic graves even of the later years. Somehow at Mycenae a new burial custom appears in the seventeenth century, that of placing rich gifts in graves



Fig. 12. Base of a grave monument, with lower part of the stele in its original position. All scales illustrated are in the metric system.



Fig. 13. Grave stele found over Grave I, with relief showing a triumphant warrior and two lions.

which assume monumental proportions. How and where that custom originated it is impossible to ascertain at this early stage of our investigations. The notion as well as the gold might have come from Egypt, but other factors that remain unknown may have contributed to bring about the change.

It is clear, however, that the people in whose graves so many valuable articles were deposited must have been very important. They must have constituted the families in authority; perhaps they were the descendants of that group of Indo-Europeans who, about 2000 B.C., began to descend from the north into the mainland of Greece taking possession wherever they established themselves. Their height, and the weapons buried with them, seem to support such a conception. Perhaps the complete excavation of the graves in the Circle will provide additional evidence to confirm the suggestion. Meanwhile, in the new shaft graves Mycenae has given the world another thrilling page of its life-history equaling in splendor and importance the pages yielded in the past.

Recording Egypt's Ancient Documents

By George R. Hughes

George R. Hughes has been connected with the Oriental Institute of the University of Chicago for many years, first as a student, then as Research Assistant and Epigrapher. Now he is Assistant Professor in the University and Field Director of the Epigraphic Survey which he describes for us here. He has studied at the University of Nebraska (A.B., 1929), McCormick Theological Seminary, and the University of Chicago (Ph.D., 1939).

FOR CENTURIES THE SANDS AND WINDS OF EGYPT have been eating away at the surfaces of temples and tombs, surfaces inscribed with records of the splendor of ancient times. In 1905, JAMES HENRY BREASTED, pioneer in Egyptian archaeology, reached the firm conviction that it was "a supreme obligation of the present generation of orientologists to make a comprehensive effort to save for posterity the enormous body of ancient records still surviving in Egypt." He was neither the first nor the last to reach and state this conviction, but he was perhaps the first to be faced with the opportunity of determining just how this effort should be undertaken by one organization.

The Epigraphic Survey of the Oriental Institute of the University of Chicago at Luxor, Egypt, or Chicago House as it is popularly known, is the realization of his efforts. The munificence of JOHN D. ROCKEFELLER, JR. provided sufficient scope to make the effort comprehensive, that is, of reasonable size and of such duration as to give hope of accomplishing the task. How well BREASTED and his associates made the basic

decisions and began operations can now be judged by the tests which nearly thirty years and vastly altered circumstances provide.

One fact which the lapse of time has not changed is the need for preserving the ancient records. The extent of the task is not less

overwhelming now than it was in 1924 when Chicago House began its work. The total of the myriads of square yards of inscribed surface in temples and tombs which have never been recorded at all or inadequately recorded by modern standards has been reduced by but a very small percentage. The surfaces themselves, although now well protected from willful destruction by human beings, are still the victims



Fig. 1. View of Chicago House showing the library-office building on the left and the residential building on the far right.

of the slow but inexorable action of time, and the rate of that action has been accelerated wherever the monuments are affected by the continuously rising water level in the Nile valley and the resultant corrosion by ground salts. The task is no less urgent than ever, and it has become larger as the number of workers which the Oriental Institute can maintain at Chicago House has decreased and as the sustained efforts of other or-



Fig. 2. Preparing to photograph the upper scene on a pillar at the rear of the Second Court at Medinet Habu.

have under the stress of the times. It is also safe to say that it could not now be inaugurated or revived in any comparable form.

The second component of the Epigraphic Survey is the staff. Six or eight artist-draftsmen, three or four Egyptologists and a photographer can be accommodated. At present the staff consists of two artists, two Egyptologists and an engineer who cares for plant and equipment. One Egyptologist doubles as photographer and the other as Director, and one of them sees to keeping the library current.

Indicative of the satisfaction they have derived from the work is the fact that many members of the staff have stayed on for a number of years as part-time expatriates. Their value to the expedition increases with time, for neither Egyptologists nor artists know what they are looking for or looking at until they have spent some time with their eyes and fingers on the painted and carved surfaces of the monuments.

THE THIRD AND most important element of the Epigraphic Survey is the elaborate method and the tradition of highest accuracy in producing facsimile drawings of the ancient records. None of the steps in the method was new when adopted but, given the goal of unflinching accuracy, they were as unavoidable in combination as they were unique. The uniqueness

consists simply of assuring that all copying is done in front of the carved surface itself and that no instance of one man's momentary inattention or misjudgment will be perpetuated on a published plate. Each drawing will represent everything that can now be seen of what the ancient artisan put on the wall, and nothing more. No Egyptologist needs to be told how few reproductions of the ancient records have met this test in the past. In modern times there is no justification for adding to work that cannot be implicitly trusted in detail.

Fig. 3. The artist pencils in the drawing on the photographic enlargement.



ganizations have virtually disappeared from the field.

Chicago House connotes a plant, a staff and an established working procedure. The plant is a permanent one, on land owned by the University of Chicago, conveniently located in the midst of a great concentration of standing monuments. It is today as BREASTED conceived it, an exceedingly well built headquarters comprising everything necessary for living and working on a long term project (FIGURE 1). Ample studios and workrooms, a photographic laboratory, a fine library of over eight thousand volumes and excellent living quarters leave nothing to be desired. It is safe to say—and a sobering thought as well—that had it not been for BREASTED's wisdom in providing this physical permanence, the project would by now have disappeared from the field as others

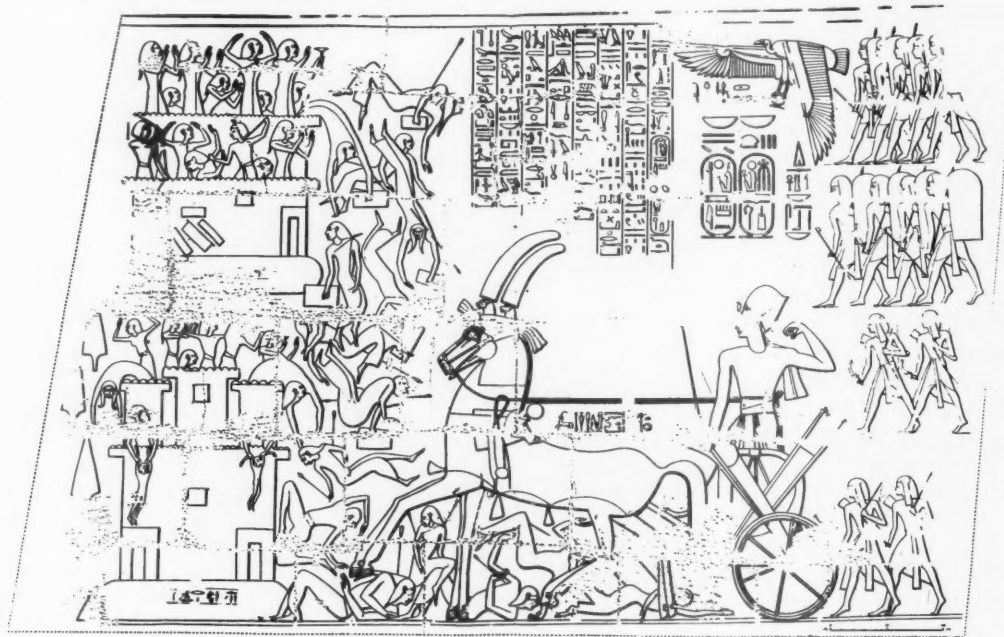
As an initial point of attack the work of Chicago House was concentrated on the temples of Ramses III (early twelfth century B.C.) at Thebes, especially his great mortuary temple at Medinet Habu. Four large folio volumes of scenes and inscriptions from it have been published, and a fifth is approaching completion. In the meantime the expedition has completely published two smaller temples of Ramses III at Karnak in the series *Reliefs and Inscriptions at Karnak*. A third volume of this series, now in press, contains drawings and photographs of the reliefs on the Bubastite Portal built by Shoshenq I (Pharaoh Shishak of the Bible). Many of the reliefs in the Temple of Khonsu at Karnak (also built by Ramses III but largely decorated by his successors) have been drawn from time to time in the past but as yet none has been published.

Chicago House has come to play another role for which it was perhaps not consciously designed. It has become a Mecca for Egyptologists of every country. Its unrivaled facilities for living and working in Egypt in the midst of so great a concentration of monuments as is found at Thebes make the role inevitable. It is impossible to estimate how much fundamental Egyptological study, apart from its own work, has been done both at Chicago House and with the aid of its facilities.



Fig. 6. At work drawing and collating in the first Hypostyle Hall of Ramses III's temple at Medinet Habu. Left to right on the ladders: Charles F. Nims, Egyptologist; Douglas A. Champion, artist; the author.

Fig. 7. A finished drawing: Ramses III attacking two Hittite towns, from Medinet Habu.



Departing from our customary adherence to fact, we present an unusual by-product of scholarship, a tale invented by an eminent archaeologist to whose well known versatility is now added still another facet. We take pleasure in introducing our readers to . . .

THE ISLAND OF PELOS

By Alan J. B. Wace

Illustrated by Elektra Megaw



IF, WHILE AT SCHOOL ON THE BANKS OF THE Severn, I had been asked where Pelos was I should have replied that it was an island in the Aegean. If pressed to be more precise I should have been unable to say anything more and so would have been ordered to draw a map of the Greek archipelago and insert in it Pelos and one hundred more places. Then indeed I little thought that I should ever become familiar with the island which is one of the Cyclades. It is, however, small and not often visited by travellers or scholars. It was the mere fact that it is so much unknown that drew my friend George Evesham to it in May 1909. He always liked to explore what he called untrodden Greece and any place that was off the beaten track had a special fascination for him.

Little enough is known about Pelos. Prehistoric remains have been found there and in the great days of Greece it was noted for the excellence of the potter's clay to which it owes its name. It apparently made and exported to other islands considerable quantities of ordinary household vessels of earthenware as it indeed still does today. It was so insignificant that it had no history, but seems to have shared the general fate of the other Cyclades under Alexander, the Romans, and the Byzantines.

After the Fourth Crusade it fell to a cadet branch of the Italian family of Bevilacqua, who established themselves there as Counts for barely two hundred years. The last of the family, Marcantonio Bevilacqua, had an unenviable reputation. By his eccentricities he drove his wife to suicide, after strangling her only son, and no other woman would thereafter ever consent to marry him. He had no children or near relatives and no friends. He drank deep. He delighted in annoying his Greek subjects in every possible way and with a perverted and mordant humor devised ingeniously cruel punishments for them if they refused to obey his irresponsible and erratic fancies. When one of the leading men of the island requested the repayment of a loan of one hundred gold sequins, he made the unfortunate man hold out his hands and had the coins heated red hot poured into them. He issued edicts regulating the ornaments which women might wear. He destroyed the remaining columns and foundations of the Temple of Zeus which stood on a low hill overlooking the small and inadequate harbor and constructed a castle with the material. The reason he gave was that the Greek inhabitants were wont to hold ceremonial dances there on Easter Monday, a habit which he characterized as pagan.

Like the mad Khalif Al Hakim he delighted to go about on midnight rides. On such occasions he rode a mule and wore no distinguishing dress or ornaments by which he could be recognized. What he did or where he went no one dared tell and he never had any attendant with him. One night in 1390 he set out on such a ride but never returned. Some days later his mule indeed came back to the castle but Marcantonio Bevilacqua was never again seen by human eyes. After his presumed death the Venetians annexed the island to their dominions and it remained under them until it fell to the Turks late in the fifteenth century.

The first Venetian governor in a despatch to the authorities at Venice reported that the inhabitants believed that Marcantonio had been destroyed by Zeus whom he had offended by uprooting his temple. It is true that the island was in ancient days, as Strabo says, *sacred* to Zeus. Not only was there the temple dedicated to him in a sacred grove just outside the walls of the one city of the island, but the mountain which rises to a height of nearly three thousand feet was sacred to him. This mountain occupies the center of the island and still bears the name of Ozia which is supposed to preserve the name of the god.

On the west the mountain descends abruptly with precipitous cliffs to the small plain surrounding the bay where lies Chora the principal town of the island. To the east the mountain slopes down with a series of ridges toward the other town, or rather village, of the island which bears the noncommittal name of Perachorio. Below Perachorio, between it and the sea, are emery workings and in the valleys between the ridges are streams of water and cultivated gardens rich with all fruits, orange, lemon, frappa, mulberry, apricot, pomegranate, quince, plum, fig, while melons, grapes, tomatoes and all vegetables flourish well.

Chora itself stands on the acropolis of the classical city of Pelos about a mile from the sea. Like all mediæval Cycladic towns the defensive wall is formed by the back walls of the outer row of houses built in one

continuous line running round the edge of the acropolis. In the heart of the town among the picturesque old houses of the island archons is the church of the Panagia Thalassine, Our Lady of the Sea. This has fortunately escaped restoration and still displays some inscriptions of the Bevilacqua family with their coat-of-arms, a canting device showing a hand holding a cup of water. The church is a low barn-like structure strongly built of stone with a fine carved wooden iconostasis and was clearly intended by its builders to be the last refuge and defense of the inhabitants against pirates or Turks. When all human defense had practically failed the inhabitants would naturally appeal to divine protection. Outside the old town towards the roadstead and jetty that do duty for a harbor are a few modern mansions built by islanders who have made money in Abyssinia and Yemen, some warehouses, a fruit canning factory and the new church of St. Nicholas in the worst neo-Byzantine style hideous with white marble and gold paint and other garish ornaments.

ON HIS ARRIVAL in the island Evesham spent some days in Chora employing his time in studying such antiquities as the island afforded and in particular paying considerable attention to its Byzantine and mediæval survivals. It was thus that he first heard from the inhabitants themselves the tales about Marcantonio Bevilacqua and his disappearance. They told him that Marcantonio when he set out on his last ride started from the other village Perachorio where he possessed a fortified tower. He had declared, they said, his intention of riding one day over the mountain back to Chora, but whether that was the object of his final ride no one knew. The general opinion was that the devil had at last summoned home his own disciple.

Evesham expressed a wish to climb the mountain to survey the whole island and the other Cyclades near. The inhabitants, however, discouraged him from doing so and said that it was impossible to do so from Chora. He therefore set out on a walk round the south coast

NOTE

This story is one of a series told to my companions during the excavations at Mycenæ for their entertainment after the day's work. Though some touches are facts, no living person is here depicted and much is fiction. The island of Pelos is not to be found in the Archipelago, nor is the journal of Andrew Fothergill in the Library of the British Museum. The tale therefore should be read with a "willing suspension of disbelief."

A wandering archaeologist like the mythical George Evesham through the adventures of his travels has a bet-

ter opportunity than most of knowing Greece intimately. Since he is often alone and dependent on the warm friendliness of the people, he learns to know the heart of the land and he may hear things which are not told to any but a sympathetic listener. Some have pictured the natural beauties of Greece, others have described life in town and country. Here an effort has been made to capture something of the quality of the intangible character of Greece which enfolds and enthralls any who have ever come under its influence.—A. J. B. W.

of the island and thence made his way up the eastern side to Perachorio nestling among the ridges at the foot of the mountain. He hoped to be able to make his way to the top from there. Before he left Chora he had been warned that the inhabitants of Perachorio were the descendants of pirates and even nowadays not above making away with travellers for the sake of any valuables they might be thought to possess. The local representative of the Ministry of Finance, a polished Corfiote, whispered to Evesham that in comparatively recent times a German traveller who had trampled heavily on some of the islanders' most cherished beliefs had vanished. The people of Perachorio swore he had left the village for Chora, but the inhabitants of Chora equally firmly said he had never reached their town. Exactly what crime against island custom the unlucky German had committed the Corfiote had been unable to fathom, but it was well known that he had accused the islanders of being in the thrall of the basest superstitions.

The people of Perachorio, so far as Evesham was concerned, most worthily upheld the great Greek tradition of hospitality. He was entertained by the Zevgoles family in the four-story tower which had once been the country residence of the tyrant Marcantonio. This was square with tiled floors laid over solid vaulting and stood between two ridges with a fine garden round it. A terrace on the western side of the first floor commanded a splendid view of Mount Ozia. His host and his family were untiring in showing Evesham all there was to be seen in the neighborhood, the emery workings, an ancient marble quarry with an unfinished colossal statue of Apollo, some prehistoric graves, and a Byzantine watchtower on the coast which had served as a lighthouse and as a guard against Saracen corsairs. These and other sights were shown to Evesham who was also

told all the information and legends the inhabitants of Perachorio knew about them. When, however, he tried to turn the talk to Mount Ozia he met with no response. All alike disclaimed any knowledge of it. No one had ever climbed it. Even the shepherds declared that they never took their flocks up the main mountain because they said there was no good pasture there for their sheep and goats. They hinted darkly of poisonous herbs or savage eagles that took the kids and lambs.

This apparent mystery only aroused Evesham's curiosity and made him more than ever anxious to ascend the mountain. He realized that no one from the village would ever go up Mount Ozia with him or even tell him the best route by which to arrive at the summit. Accordingly he started off early one morning without telling his hosts where he was going. He merely said he was going for a walk on the hills near, but he put in his pocket some bread and cheese. As soon as he was well away from Perachorio he mounted to the top of the ridge and followed its backbone right

up to the base of the central mass of the mountain. Thence he climbed a stony slope by a zigzag track which led to a kind of fold in the mountain at the eastern foot of the highest peak. This last stage proved no difficult climb, and thus by ten o'clock Evesham, having started soon after six, stood on the summit.

The grandeur of the view was almost incredible. At his feet to the west the main peak was cut by a smooth rocky precipice as though by a knife. Below this was a series of jagged cliffs and at their foot lay the plain of Chora with the town as a white dot on its margin against the green blue sea. To the north the mountain went almost sheer down to the Aegean, and beyond in the distance Evesham could see the sacred isle of Delos. To the east were the marble mountains of Paros and Naxos. By degrees, as he looked, he could pick out and



name all the islands within view. Seated there on that height he seemed to have the whole world at his feet set in a sea to which he felt instinctively he must apply all the epithets he could recall from Homer, wine-dark, heaving, purple, unharvested, cloudstreaked—especially the last as the breeze and the cloud shadows checkered its surface. He sat there drinking in the magic beauty of the view for some time and then was called to activity again by seeing an eagle swoop out of its eyrie in one of the precipices and sail upwards surveying the whole mountain as if in search of prey.

Then Evesham was struck for the first time by the great loneliness of the whole landscape. The eagle was the first living creature he had seen since he left the village. True, while coming up the ridge above the village he had seen a shepherd with a flock at some distance, but higher up and on the main mountain there had been no one and no creature not even a goat. He began to wonder at this for except for the rocky slope and the final peak itself the mountain was well covered with rough herbage, mountain sage, cistus, prickly oak, thyme, lentisk and the like among which goats at least love to browse. Why were the shepherds so foolish as not to bring their flocks up to the mountain?

As it was now after eleven o'clock he thought he had better begin to descend and try to find some spring or rivulet where he could rest and eat his bread and cheese. He reached the foot of the final peak and was beginning to cross the fold of the mountain when a cloud borne by the gentle south-west wind enveloped the whole summit. He imagined that the growing heat of the sun had brought a sea mist over the higher part of the island. He had seen from the top a small cap of cloud on the mountain of Naxos. This sea mist on the mountain of Pelos, however, was denser than he could have believed. Before long he knew he had lost his way and was wondering where to turn to find the zigzag path down the rocky slope.

SUDDENLY HE SAW a man close at hand emerging from the mist and approaching him. This man was dressed in the characteristic clothes of the island shepherds. He had white stockings and rough sandals of goat skin and on his head a white knitted cap with a short tassel. He wore baggy breeches, a double-breasted waistcoat, and a short open jacket all of brown homespun dyed with the wine lees. The man himself was tall and of fine physique and had a full reddish brown beard. In his island dress he was a striking, dignified, and handsome man.

After the usual greetings Evesham asked if he would be kind enough to show him the way down. The man

enquired what Evesham was doing on the mountain, and Evesham simply told him that he was a wandering scholar studying all he could of Greece, both ancient and modern. He added some comments on the beauty of the island and the hospitality of its people and the glorious view he had enjoyed from the summit. He even quoted two lines from the *Iliad* which had been running in his head ever since he had been entranced by the view from the top of the mountain. The lines describe Zeus seeing far and wide seated alone on the highest peak of many-ridged Olympus. The stranger who seemed to understand Homer nodded with approval. Then in response to Evesham's request he showed him how to find the zigzag path down to the ridge below. Evesham asked if by any chance there was a spring or some source of water nearby. The man took him a short distance southwards and turning a spur which projected from the main peak led him into what Evesham afterwards described as an enchanted vale.

There between two spurs of the peak was a sheltered valley. At its head a small spring of clear cold water welled forth beneath a venerable ilex, the last survivor of a forest which must once have clothed the mountain, and now hoary with long strands of grey lichen hanging from it. The water from the spring ran gently down through the narrow, grassy valley, and its banks then, in May, were bright with flowers. Along them Evesham observed pink primroses, fritillaries, orchis, ophrys, and even he thought the big yellow *Adonis* which the books say grows only on Mount Kyllene. After kneeling to drink at the spring Evesham turned to offer the stranger a share of his bread and cheese when he became aware that he was now alone. Where was the shepherd? He ran to the mouth of the valley and called, but could not see him and heard no answering call. So he went back to the spring and sat down to rest and enjoy his frugal fare. The sun was already dispersing the mist, but he decided to rest beneath the ilex and lay back on a bed of thyme. Almost at once he fell asleep.

In his sleep he dreamt a set of verses which came spontaneously into his mind. He remembered them afterward, and they were published in the memorial booklet about him which his mother issued for his friends after his death.

Amid all the voices that call in the winds that sweep the sea

Are two that I fain would hear, that whisper a charm to me—

The magic voice of Greece where the violet sunsets glow

O'er heroic cities of kings sung by Homer so long ago.

There the mountain meets the sky and the olive frames the bay,
There temples bask in the sun and the lazy lizards play,
In a land of cypress and pine where the scarlet wind-flow'rs blow
In an ancient land of renown, of a people whose heart I know.

So would that I might be away to the thyme-clad hills of Greece
Till my day in the east is done and I find 'neath asphodel peace.
Then the other voice that I hear in the wind of the western sea
Will summon me back at the last to the home long left by me.

He said he felt they must have been inspired by a passage in Gilbert Murray's *Iphigeneia in Tauris*:

One love long lost, one voice forever heard,
And wings that sweep the sea.

When awake he wrote down the verses. Then he got up and explored the valley. At its mouth on a boulder at the end of one of the spurs he found what he felt sure must be the weathered remains of an inscription, but all he could read were some broken letters.



Presently he found his way to the top of the zigzag path, down the stony slope and thence along the ridges to the village. He saw no further sign of the stranger and till he came near the village saw no other living creature. He felt, however, supremely happy and, as he

described it, elated, convinced that Pelos was the best of all the islands.

AT SUPPER with his host that evening when asked what he had done during the day he said simply enough that he had climbed the mountain and remarked how magnificent was the view from the top. His host and his family frankly refused to believe him. He protested he really had been to the top of the mountain and then asked about the shepherd whom he had met, for he added he did not remember having seen him in the village even on Sunday when all are wont to gather for church. The whole Zevgoles family were amazed. The women crossed themselves and his host enquired what kind of a man the shepherd was. Evesham described him and then said that he had been very kind, had guided him on his way when he was lost in the sea mist, and had also shown him where he could find water to drink. If they had been amazed before the whole family were now stupefied. The women again crossed themselves and his host with a valiant effort violently changed the conversation to the latest political news from Athens.

The next morning Evesham, while he sat on the terrace reveling in the view of Mount Ozia which he had climbed the day before, endeavored to extract some information from his host's widowed mother. She was named Lemonia and was well advanced in years. She was then hobbling about the terrace busily watering the plants that decorated it. These were mostly carnations, ivy leaf geraniums, or basil, set in old petroleum tins which were as flower pots in their third incarnation, for they had served an intermediate stage as ballot boxes. He asked her who the man on the mountain was. Lemonia answered she did not know. He asked if he was a shepherd and why the shepherds never took their flocks on to the mountain proper. She mumbled something which he failed to catch or which, he guessed, perhaps she did not wish him to catch. He made a third attempt and asked if sea mists often came over the island in May or early summer.

"*I Panayia se phylaxe!* (the Virgin protected you!)" she replied, to his surprise, and crossing herself vigorously hobbled off indoors.

He despaired of gaining further information and so a few days later after many hearty farewells from his generous hosts he retraced his path over the rolling country in the south of the island back to the olives and vineyards of the plain of Chora. There he again enquired of the Corfiote financial official who had to confess that he was quite unable to enlighten him, for the inhabitants of Pelos were most uncommunicative

about the traditional beliefs which they kept next to their hearts. In two days the weekly steamer appeared and carried Evesham back to Athens.

Naturally enough Evesham as a result of his visit to Pelos was fascinated by the island. He read every book he could find that dealt with the Cyclades seeking for information about Pelos in particular, in the hope that he might come across something which would help him to solve the mystery of the mountain. At length he found a modern Greek book giving some statistics about the Cyclades in 1860 written by Demosthenes Papademetrakopoulos, a schoolmaster from Arcadia, who had been in charge of the principal school at Chora for ten years. This Peloponnesian believed that he himself was highly educated but that the islanders were not and had felt little sympathy towards them. After giving some dry-as-dust details about the population, the number of churches, and the tonnage of emery, pottery, fruit and marble exported yearly he indulged in the following paragraph at their expense:

"The inhabitants of Pelos, though hospitable like all Hellenes, are not, however, friendly towards strangers. They refuse to marry their daughters to strangers and do not encourage strangers to settle in the island, even officials of the government. They are polite, but they never divulge their own thoughts. This is perhaps due to the terrible tyranny they suffered from Marcantonio Bevilacqua, the Venetian count of the island, who persecuted them savagely. Others, however, say that the islanders are the descendants of pirates and still retain many of the heathen beliefs of that savage race. They are said to worship the devil or other gods of ancient Greece secretly in the mountains which they allow no one to approach. If the government would cease to devote itself to politics and instead encourage education and send to Pelos good schoolmasters and educated priests and build more schools such practices or beliefs unworthy of true orthodox Hellenes would soon be obliterated."

THIS, EVESHAM felt, was a sort of clue and he longed to return to the island to test it, but could not do so that season. In the autumn while working in the British Museum he came across the manuscript journal of Andrew Fothergill, a pugnacious and bigoted protestant from Fife who had passed by Pelos on his pilgrimage to Jerusalem early in the seventeenth century. There he read:

"Thence casting off we came presently under the Isle of Spelo, as it is named from the caves therein. This was once ruled by a popish count, Mark Antony by

name, by whom being crazed the poor Speliots were much misused. Now they are in but little better circumstances being subject to the Capitan Pasha and the Mussulman Turks. This perchance is their desert because they themselves were the offspring of misbegotten piratical hordes. Their habit testifieth thereto because, though civil outwards, they look upon strangers with unfriendliness. They have not the true word of Christ, poor ignorant misguided creations! They claim that they are subject in all ecclesiastical disciplines to the Patriarch of Constantinople or New Rome and follow his rites and liturgies. Instead thereof they yet nourish in their bosoms pagan superstitions and vain conceits, inasmuch as they idly pretend that whereas the isle was of old sacred to the King of the Heathen Gods, one Juppiter, he yet liveth forsooth on the mountain in its midst, the which they have foolishly endowed with his name. They therefore suffer no man to tread thereupon nor any living creature that they have of herds of kine or goats. Their pretension is that if anyone adventure upon it, the heathen god straightway wrappeth the mount in thick cloud—as was Moses upon Sinai—and enticeth the poor stranger to destruction of his life by casting him into the precipitous abysses that defend the same. Of those that have oft times endeavored to walk upon it or to see the kingdoms of the world—a temptation of Satanas—from its summit, which being of marvellous height reacheth to the sky, but two have ever returned as having found favour in the sight of the idolatrous god, to wit Platon, the heathen wiseman by whom the coming of Christ was foretold and one rare crusader, one Roland, who voyaging to the Holy Land for the salvation of his sinful soul to do battle for the redemption of the sepulchre of Christ from the Paynim was cast up by the combustious seas upon the isle."

A bright light seemed to invade that grim hall in Bloomsbury and as Evesham sat there thinking of his adventure on Pelos he glanced at the notebook open before him at the page with the weathered inscription which he thought he had seen on the boulder in the enchanted vale on Mount Ozia. As he looked the fragmentary letters seemed to complete themselves as if traced by an invisible hand, and he read in a flash of illumination

Η ΟΡΟΣ
Η ΙΕΡΟ
ΔΙΟΣ

Boundary of the sanctuary of Zeus!

Imperial Treasures of the Shosoin

By Bun-ei Tsunoda

A native of Japan, Bun-ei Tsunoda was educated at Kyoto University and later taught there and at Dôshisha University. In 1949 he was appointed Associate Professor of Archaeology at Osaka City University. Widely traveled, he is the author of numerous articles and books; of the latter may be mentioned Studien über den Tempel Kokubun-ji (1938) and Introduction to Ancient History (1950). He is also editor of the new Japanese archaeological journal, Palaeologia.

ARCHAEOLOGISTS ARE ALWAYS SEEKING ANCIENT treasures underground, and during the last hundred years many buried treasures have been discovered that tell us of the glories of the past. But how great would be the archaeologists' amazement and joy to find intact many ancient treasures in an edifice erected more than a thousand years ago! In contrast with objects taken from the earth, most of the treasures would be completely preserved, as if used only yesterday, and artifacts of organic materials, such as lacquer, leather and fiber, documents written on paper, would exist in their original state. One of the rare examples of such preservation is the *Shôsôin* in Japan.

The *Shôsôin* is situated in the famous city of Nara, an ancient capital (710-784 A.D.) of Japan, about twenty miles east of Osaka. The term *shôsô* means an important storehouse for government offices or temples, and *in* signifies a section; therefore *shôsôin* is a complex of several buildings including the main storehouse and its belongings. Although once there were a number of *shôsôin*, this word is now generally applied to the storehouse of the Buddhist temple *Tôdai-ji*, the only surviving example.

Its historical importance rests on its collection of about nine thousand objects mainly of the Tempyô period (about 710-780 A.D.) and partly of the Hakuho period (about 650-710). More precisely, its historical value is based on these facts: (1) objects of the eighth century are preserved in an edifice erected at the same time, just as if they were canned goods; (2) the artifacts represent the various aspects of the Tempyô culture, including that

of ordinary people as well as the court; (3) except for excavated relics, no comparable objects exist today in China, the center of these classical cultures in eastern Asia; (4) they show artistic influences from Central Asia as well as from the Byzantine Empire. Hence, the *Shôsôin* is of great importance not merely for Japan but for the whole world.

The *Shôsôin* stands in the midst of a grove northwest of the main building, *Daibutsuden*, of the *Tôdai-ji*, the largest temple of the Tempyô period, erected in 752 A.D. by Emperor Shômu (724-749; died 756). It is a large edifice (FIGURE 1), rectangular in plan and with a hip roof, facing south (length, north to south, one hundred and seven feet; width, thirty feet; height, forty feet). The building is constructed in the so-called *azekura* manner, i.e. the floor is elevated eight feet from the ground and supported by forty wooden columns, and the upper structure is di-

Fig. 1. View of the *Shôsôin* from the southeast. Here the Imperial Treasures of the eighth century are preserved.



vided into three magazines (northern, central and southern) by parallel walls made of triangular beams (FIGURE 2). Each magazine has two stories and a garret.

THE REASONS FOR the perfect preservation of the eighth century objects are several. First, the storehouse was closed by imperial ordinance and opened by imperial decision only for the airing of the objects which were always carefully tended under the strict supervision of the government and the temple authority. That Japan has been governed by only one dynasty is even more important. Secondly, the building was well ventilated, owing to the high pile foundation and to the fact that the crevices between the wall beams close when the atmosphere outside is moist and open slightly when it is dry, thus stabilizing the humidity of the interior. Thirdly, the *azekura* type structure has strong resistance to earthquakes. Although there have been various dangers during the last eleven centuries, thunderbolts, earthquakes, fires and robberies, the *Shôsôin* fortunately survived and is now under the control of the Department of Imperial Household.

The Treasures of the *Shôsôin* range from 702 A.D. to 1413, but ninety-five percent of them belong to the Tempyô period. Generally speaking, the Tempyô articles may be divided into three categories: (1) the fine objects

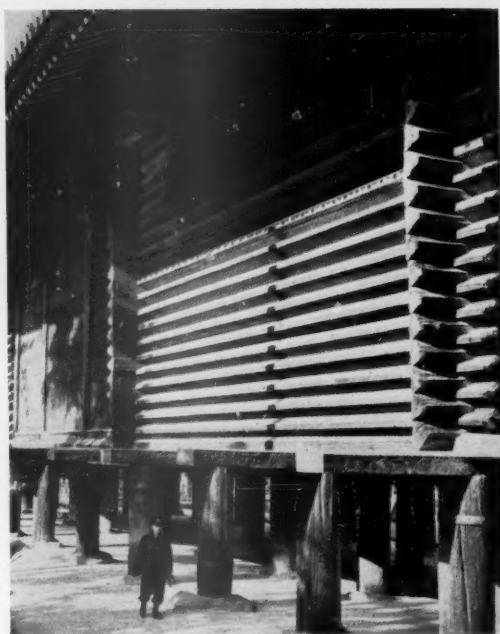


Fig. 2. Southwest corner of the *Shôsôin*, showing the construction in the *azekura* manner.



used habitually by the Emperor Shômu and contributed to the *Tôdai-ji* by the Empress Kômyô after his death; (2) various articles employed in gorgeous ceremonies at the *Tôdai-ji* in the mid-eighth century; (3) maps and documents. Needless to say, the first two categories are primary materials for clarifying the higher culture of the age. The numerous documents contain various census registers, missives of divers offices and dossiers regarding the estates or applications for leave of subordinate officials and constitute, therefore, unique materials for the study of every aspect of the Tempyô culture. How bulky these documents are is shown by the *Dai Nippon Komonjo* (*Corpus of Ancient Documents of Japan*, Volumes 1-25, Tokyo 1901-1940), which has reached a total of fifteen thousand pages.

The Treasures contain countless objects of all kinds, musical instruments, masks, weapons, armor, playthings, dresses and their ornaments, furniture, receptacles, jewelry, ceremonial implements, working tools, Buddhist implements, incense, drugs, scrolls (literature, documents, Buddhist scriptures, etc.), maps and so on. They are really a living encyclopedia of the Tempyô culture. Most astonishing are the splendid musical instruments, furniture, dresses and receptacles. The pictures on folding

Fig. 3. Part of a koto (musical instrument with seven strings), lacquered over gold and silver foil decoration (heidatsu).

screens, hangings, musical instruments (FIGURE 3) and many masks for the dance show the genius of the age in applied arts. An excellent catalogue (*Shôshôin Zuroku*, 16 volumes, Tokyo 1928-1945) reproduces immensely important specimens from the Treasures and attracts scholars and appreciators of fine arts of the whole world. At present the *Shôshôin* is opened for airing every autumn. On this occasion the Treasures are repaired, and artists and foreign visitors are permitted to inspect and study them.

THE TECHNIQUE employed in these artifacts is admirable. The metal work shows familiarity with gold and silver marquetry as well as with highly developed casting (FIGURE 4), filigree and gilding. The complicated and graceful mirror ornaments are the best proof of the excellent casting (FIGURES 5 and 6). The importance of lacquering is confirmed by the prominence of metal lacquer (akin to gold lacquer); and ornaments with oil paints and gold and silver *heidatsu* came into general use. The *heidatsu* is the special technique of inlaying gold or silver designs in lacquer (FIGURES 3 and 7). The most attractive ceramics are the glazed wares with delicate coloring in



Fig. 4. Jar made of an alloy of copper, tin and lead, with an anthropomorphic spout that resembles a number of Iranian examples.

green or yellow monochrome as well as in two or three colors.

Much glassware is preserved (FIGURES 8 and 9); among the most valuable is a beautiful bowl of cut glass (FIGURE 10). A twelve-lobed mirror with cloisonné back is one of the masterpieces of the Tempyô arts (FIGURE 11). Both mother-of-pearl and wood mosaic were in vogue; the best examples are on the backs of mirrors or on lutes. We should not ignore the ivory work and the tortoise-shell wares used in many toilet articles and furnishings. Also prominent are the techniques of dyeing and weaving, seen in numerous specimens of brocaded (FIGURE 12), damask-like and gauzy tissues and decorated carpets. Worthy of mention are the excellent examples of ceremonial dresses, banners, hangings and scroll covers woven in finest silk.

It is likely that most of



Fig. 5. (Left) Eight-lobed, gold-plated mirror back with a design of birds, animals and flowers; (right) eight-lobed mirror back with birds and foliage.

Fig. 6. A square bronze mirror with bird, animal and grape decoration that shows a remote echo of Hellenistic culture.

the objects preserved in the *Shôsôin* were transported from China during the T'ang dynasty. That they are typical of the best work of the period is proved by contemporary objects recently unearthed there. At the same time, the court artisans in the Tempyô period promptly mastered the foreign techniques and manufactured such excellent articles that it is almost impossible to distinguish them from the imported specimens. Although the Tempyô arts were primarily a reflection of the T'ang and were restricted to the court and the governing aristocracy, and also to the Buddhist temples, we cannot help recognizing that in both originality and quality they are comparable with the contemporary arts of China. One should not overlook the less important pieces of pongee and linen cloth which were paid by ordinary people as taxes. The labels attached to them testify to the dates and the names and addresses of the persons who paid them.



Fig. 7. (Right) Lacquer jar of Iranian type ornamented with silver foil inlay of birds, animals and flowers (heidatsu technique), and with the spout and lid modeled on the phoenix.

Fig. 8. (Left below) Blue glass cup with applied rings and gold-plated silver foot, a ware clearly under western influence.

Fig. 9. (Center below) A colorless glass pitcher with its spout patterned after the beak of the mythological bird, the phoenix.





Fig. 10. (Above) Bowl of brownish cut glass.



Fig. 11. Twelve-pointed mirror with cloisonné back. Each petal is outlined with a thin ribbon of gold and further decorated with arches and scrolls, also in gold, forming cloisons which are filled with deep green, pale green and brownish-yellow enamels.

IN CONTRAST WITH the Mediterranean world, the ancient culture of Japan stagnated on an archaic level. The formation of an early classical style, hinted at by the arts of the Asuka period (about 550-650), was cut short by the sudden and deep penetration of the middle classical culture of China, the brilliant T'ang. Japan's leap from the archaic to the middle classical age was the destiny of a backward area situated near a progressive cultural center. Accompanying this cultural change, a centralized government was finally established in the eighth century, with the emperor ruling as both absolute monarch and priest-king.

The Tempyô period is one of the most epoch-making in Japanese history, with enormous developments in socio-economic organization, communications, science and education, as well as industry, architecture, fine arts, literature and music. Together with the preceding Hakuho and the following Jôgan (about 780-950), the Tempyô culture represents the middle classical period in Japan. As the acceptance and creation of the new culture were so swift, it could not penetrate to the ordinary people. That the culture of the ruling classes was unexpectedly high and bears comparison with the other classical cultures of the world, is pointed out most precisely and vividly by the Imperial Treasures of the *Shôsôin*.

Fig. 12. Detail of a treasured brocade: medallion with the legendary phoenix, set on a purple ground.



ANCIENT GLASS

IN THE CORNING MUSEUM

By Thomas S. Buechner

Director, The Corning Museum of Glass

WOODS, METALS, stone, fibers, ceramics, glass and now plastics are the seven basic materials with which man has built his civilizations. Corning

Glass Center (and, within it, The Corning Museum of Glass) is completely devoted to glass and glassmaking. This is a unique approach, combining in one building all that is known about a given subject, represented by actual examples, working demonstrations and the printed word. A student of architecture, for example, would find quantities of literature on his subject at a good library; he would have to go to a museum to find models and reconstructions of historical achievements and eventually travel the world over; the practice of architecture is nowhere a public demonstration, and only by attending a university or joining an architectural office can this operation be studied. The Center, on the other hand, integrates in one institution the art, history, industrialization and actual manufacture of glass. These four aspects are developed respectively by the Museum, the Library, the Hall of Science and Industry and the Steuben Factory.

The Library was organized with the objective of acquiring and preserving with the best possible examples everything written about glass. The Art and History section, for example, begins with such an incunabulum as Pliny's *Natural History* describing the discovery of glass; this particular copy of the first edition was formerly in the collection of the EARL OF PEMBROKE. Josephus, Vitruvius, Strabo, Diodorus and Agricola are all represented by their first printings as well as some in manuscript form. These are the

Amphoriskos of blue glass decorated with threads of turquoise blue, yellow and white. Cored technique. Egyptian, Eighteenth Dynasty (fifteenth century B.C.). Height, 4½ inches.

Photo Marc Bomse



foundations on which the history of glass has been built. ANTONIO NERI wrote the first book entirely devoted to glass; the library possesses sixteen different editions and some twenty-six copies in all. Of particular interest among nineteenth century works are the great hand-colored catalogues of the Gréau and Froehner collections. More recent publications have been divided into two categories, the Art and History and the Science and Industry of glassmaking. There are also a comprehensive print collection, a photographic reference file of glass objects and paintings depicting glass objects, and a general picture file including clippings and reproductions from publications.

THE MUSEUM comprises special and permanent exhibition galleries. The latter house a geographically, as well as chronologically, comprehensive survey of the history of glass from 1800 B.C. to 1952 A.D. Approximately five hundred pieces (one-tenth of the entire collection) are displayed in three long, narrow galleries forming a U. The first leg is devoted to ancient glass, terminating in the fifteenth century.

The examples are displayed in seven cases bearing the following general titles: *Egyptian*, *Roman Empire* and *Persian*. These designations have posed a serious problem: "modern" glass (fifteenth to twentieth centuries) is best divided by place of manufacture, and, as this coverage comprises two-thirds of the total ex-

ON THE COVER: three cored glass vases made in Egypt. At left, an aryballos dated to the sixth century B.C.; center, an amphoriskos of the third century B.C.; and right, an alabastron of the sixth century B.C.



Photo © Ezra Stoller

View of The Corning Museum of Glass from the entrance lobby. The case on the right contains rare old books dealing with glass and glass manufacture.

hibition, consistency demands the same method of organization for ancient glass. Actually, *Egyptian* refers to a period beginning about 3000 B.C. and ending about 100 B.C. The boundaries confining ancient Egypt do not necessarily confine the manufacturers of ancient glass. Similarly, *Roman Empire* is a chronological designation and includes the territories of Egypt, Syria, Phoenicia, Italy, Gaul, the British Isles and so forth. *Persian* merely refers to a change in power, following the collapse of the Roman Empire, which brought new influences to the art of glassmaking.

The actual beginnings of the history of glass are

Photo Marc Bomse



more a question of definition than of chronological fact. If glass is sand, fused by heat, with or without the help of other agents, it existed at least five thousand years ago as a glaze on ceramic beads and pottery. If, on the other hand, it is a solid, one-substance article made of fused sand, it probably did not exist before 1500 B.C. This date corresponds with the reign of the Pharaoh Thutmose III, in whose tomb three glass specimens were found. Mr. W. B. HONEY (*Handbook of the Glass Collections of the Victoria and Albert Museum*) refers to these as belonging to "an experimental early phase."

The actual development of solid glass objects most probably began with glazed ceramics. A bead, for example, if badly kneaded or overfired would explode or disintegrate, leaving a shell of glaze, or, in other words, a tiny glass cup. Such an accidental discovery seems logical in view of the methods employed in the making of glass from 1500 to 100 B.C. Generally referred to as core-wound, this process has been the subject of some controversy. The term describes the winding of semifused rods of glass around a core of sand which was later scraped out after the glass had been smoothed and cooled. It is generally agreed that

Glass cup in brilliant colors. The mosaic technique. First century B.C. From Syria (?). Diameter, 3½ inches.



Mold-blown flask and beaker from Syria. First century A.D. On the base of each are three concentric circles, similar to those often found on vases signed by the famous glassmaker Ennion. Height of flask, $3\frac{1}{2}$ inches; of beaker, $5\frac{5}{8}$ inches.

a sand core, an actual model of the interior, was used, but whether it was dipped and rolled in hot semifused glass or wound about with glass rods is difficult to determine. If the latter is true, any bubbles or imperfections would be elongated by the drawing out and winding of the rods; no matter how carefully the glass was smoothed on the outside, traces in the form of creases would remain on the inside. Neither of these core-wound characteristics is visible in known Eighteenth Dynasty specimens, therefore the term "cored glass" might be used.

Two mold-blown glass ritual vessels. On the left is an eight-sided Jewish ritual bottle (height, $4\frac{1}{4}$ inches), with a religious symbol (seven-branched candlestick, Tree of Life, etc.) on each side. At the right is a hexagonal, pale-green vase with a Christian symbol on each side (height, $5\frac{1}{2}$ inches). Such vessels were common during the fourth and fifth centuries.



The vessels made during this first five hundred years were generally bottles a few inches high, designed to contain cosmetics and oils. They were decorated with threads of colored glass, often yellow, white or turquoise, which were dragged up and down to form a zigzag pattern. The entire design was then marvered (pressed by rolling) into the body of the vessel, leaving a smooth, unbroken surface. This first phase appears to have ended by the year 1000 B.C., after a steady decline in craftsmanship and popularity.

A cuneiform tablet from Assyria describes glassmaking practices in some detail as they existed there in the seventh century B.C. Probably the earliest recorded word on glassmaking, this tablet indicates that the craft was so well established that various recipes for colors and types of glass had already been developed. Whether this knowledge came from Egypt or whether it originated in Assyria is not known. In either case, the honor of discovering glass is by no means confidently assigned to Egypt.

The making of cored glass was revived in Egypt in the seventh century. Judging from the enormous number of specimens dating from this century and the five following, production was large and not confined to the toilet tables of the pharaoh's family. An amphora-shaped perfume bottle in the Museum's collection, excavated in Greece, is decorated with a dark red zigzag on a white matrix more Greek

Photos Marc Bomse



Mosque lamp of enameled glass, dating from the fourteenth century. Height, 12 inches. This lamp, with inscription from the Koran, once hung in a Cairo mosque.

than Egyptian, and probably was intended as a container for a cosmetic exported from Egypt (COVER, center).

The origin of the blowpipe is a matter of speculation. The extensive use of cored and pad-glass (a semifused, paste-like glass rolled into sheets) well into the first century B.C. suggests that period as the earliest choice. Glass may have been blown by rolling a hot glass pad into a tube, sealing one end by pinching, and blowing through the other after it had been cooled and the pinched end reheated. With the blowpipe, glass was produced in great quantities and for many purposes.

THE ESTABLISHMENT of the Roman Empire had a tremendous impact on glassmaking. Glass was made throughout the Empire, each region having its own particular characteristics. Magnificent mold-blown flasks and bottles were made at Sidon in the century before and the century after Christ. Ennion was one of the most famous makers of such articles, occasionally signing his molds in both Greek and Latin with the phrase "Buyer remember, I Ennion made this." Pro-

duction and consumption increased steadily until by 300 A.D. glass was as familiar as it is to us today.

With the decline of the Empire, a great split occurred in the established glassmaking traditions. The infidels from the Near East converted the classical approach of the glassmakers to the more exotic Arabian and Saracen concepts. Glasshouses in northern Europe collapsed by the hundreds with the severing of the silken cord, but a few of the most primitive sort remained. They were responsible for the evolution of the *nuppenbecher* and eventually the *roemer*. The Saracens, on the other hand, were attracted by the decorative processes developed in Rome, Syria and Egypt. Enameling, luster, mosaic, gold lamination, cutting and engraving had all been in use and eventually were perfected by Near Eastern craftsmen. Unfortunately, the quality of the glass itself was ignored and soon deteriorated from the original Roman achievement.

By the thirteenth century Egypt in general, and Cairo in particular, again had magnificent glass. The mosques built for the sultans contained exquisitely enameled glass lamps hung from the ceilings by chains. Large mold-blown sprinklers and wine-glasses were decorated with ribbons and flowers of glass, and chalices embellished with gilding. It is interesting to note that the establishment of Venice as a center of world trade again brought together the Christian West and the Mohammedan East.

"Nuppenbecher" from Germany, dating in the sixteenth century. Height 3 inches.





Huaca del Sol, near Trujillo. North Coast of Peru.

The Huaca del Sol (Temple of the Sun) is probably the largest structure in Peru, but doubtless served only as the foundation for a temple. The basal platform is about 750 by 450 feet; on this is a smaller pyramid about 340 feet square, reaching a total height of 135 feet. It was built in the Moche period, about the beginning of the Christian era.

The great pyramids of the coast of Peru are built of sun-dried mud bricks. Treasure hunters, digging into them, reveal the construction. According to place and period, the bricks are large and conical or relatively small and rectangular, the latter made in molds. The number required for the immense Huaca del Sol is well-nigh astronomical.

From his trip to Peru in the Spring of 1952 Dr. Mason brought back many new pictures of the most interesting archaeological sites. Some of the highlights are offered here as a . . .

PERUVIAN PANORAMA

By J. Alden Mason

ARCHAEOLOGICAL RESEARCH IN PERU, relatively latent—in this country at least—for several decades, has enjoyed a great renaissance in the last ten years. Its upsurge may be considered to date from the formation of the Institute of Andean Research in 1937. Of the eleven field expeditions sponsored by this Institute in 1941-42, seven were in the Andean region, four in Peru and three in the adjacent areas of Colombia, Ecuador and Chile. Prompt publication of results was required of all participants, and all have now appeared. This work was followed in 1946-1947 by the Viru Valley Project, a joint undertaking of a number of United States institutions. A complete geographical, archaeological, ethnological and social study of this small valley on the northern coast of Peru was made by eight collaborating units.

The Peruvian Government is continuing excava-

tions in many places, such as the famous old necropolis of Ancon and at Pachacamac. The death of the old maestro, JULIO C. TELLO, was a great loss to Peru, but several younger and well trained disciples are following his footsteps. And in a number of centers, such as Cuzco, Huaraz, Trujillo and Ica, devoted archaeologists from local museums and other institutions are pursuing investigations in their respective regions. As always, there are also occasional expeditions and students from other organizations in this country and in Europe.

As a result of this work, the picture of ancient Peru has changed greatly since the day when PHILIP MEANS' *Ancient Civilizations of the Andes* (1931) was the standard text. All the various cultures and their temporal relations are now much better known. The pre-Inca "Megalithic Empire," which was supposed to have built Sacsahuaman and the other megalithic structures

Huaca del Dragon, near Trujillo. North Coast of Peru.

The Huaca del Dragon was excavated only a few years ago [see RICHARD P. SCHAEDEL in *ARCHAEOLOGY* 2 (1949) 16-22]. Some yellow and red coloring remains on the mud relief arabesques. Unless covered, they will disappear in the next occurrence of torrential rains. The large and quasi-pictorial figures suggest that the small pyramid was intermediate between the Moche and the Chimu periods, probably about the year 1000.

in the highlands, has largely faded from the picture, and this massive masonry is now believed to be pure Inca.

In historical research, too, the emphasis has changed. The many chroniclers who wrote down the Inca traditions at the time of the Conquest differed very greatly in their reports. Formerly, the account of GARCILASCO DE LA VEGA was given most credence, but now students are coming to place more reliance on the work of some other chroniclers, such as BERNABÉ COBO.

FORMERLY—POSSIBLY in subconscious opposition to the popular fondness for great age in archaeology, which equated American pyramids temporally with those of Egypt—archaeologists were inclined to minimize the age of the higher civilizations of America and to doubt estimates of age earlier than the beginning of the Christian era. At that time such estimates were largely subjective, and calculated from such data as depth of deposits and the assumed rate of cultural change.

In the last five years tests of radiocarbon in organic materials have begun to give us more or less accurate dates. The process is new, the "bugs" not yet eliminated; few laboratories are equipped to do the work, and relatively few results from Peruvian materials are



yet available. In no case has a series of tests been made on similar materials, giving relatively similar dates from which an average might be derived. Within a few years we shall have such, but at present there are few if any dates that all Peruvianists will agree upon.

However, there seems to be no doubt that civilization began in Peru much earlier than formerly thought. It is generally accepted that agriculture began there about 2550 B.C. The earliest recognizable high culture, that of Chavin, lasted for a number of centuries in the first millennium B.C., and the very highly developed Moche or Mochica period was apparently at its prime in the early centuries of the Christian era.

But scientific questions of radiocarbon and of stratigraphy have not affected the changeless charm and appeal of old Peru. The great adobe pyramids rear their yellowish heads above the sands of the utterly leafless desert, while only a step away lie the lush irrigated fields of corn, cotton or rice; the lonely immensity of the great dead cities of Chanchan and Cajamarquilla,

Chanchan, near Trujillo. North Coast of Peru.

The ruins of Chanchan, the capital of the Chimu, are estimated to cover more than six square miles. Built entirely of adobe bricks, the area is crowded with ruins of houses, reservoirs, streets and other civic features. It has never been completely plotted, and very little excavation has been done. From A.D. 1200 on is the estimated date.



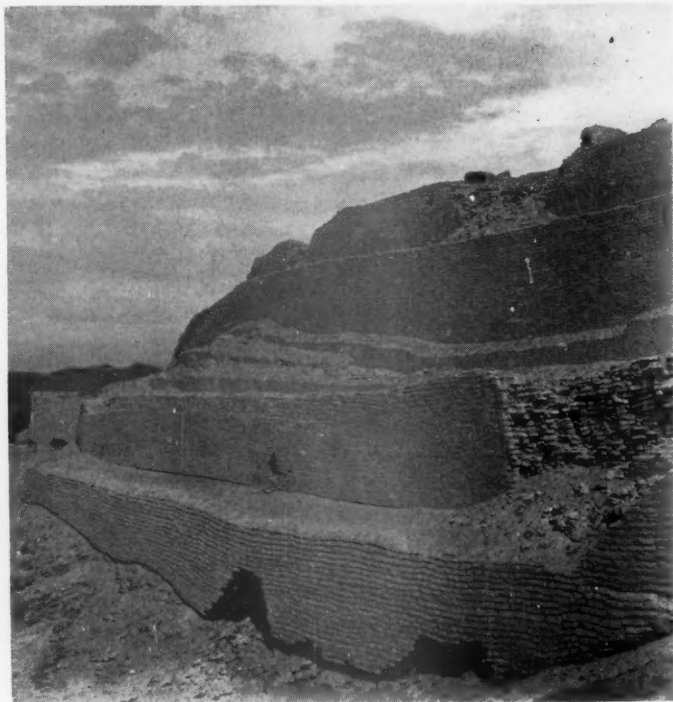


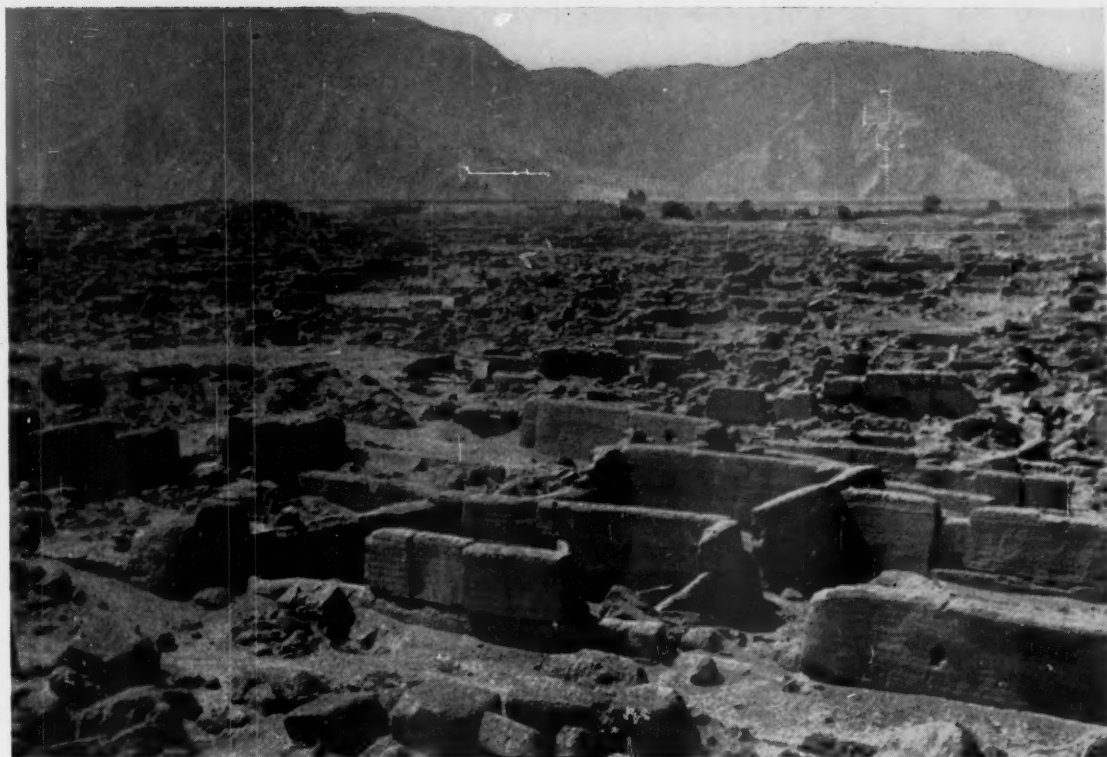
(Above) Huaca Esmeralda, near Trujillo. North Coast of Peru.

Chimu walls were decorated with mud arabesques, generally in small repeated "textile" figures. These are revealed in clearing debris. Some of the best preserved are in the small Huaca Esmeralda in the suburbs of Chanchan.

the linear beauty of Tambo Colorado, the colossal grandeur of Sacsahuaman, the majestic setting and the noble architecture of Machu Picchu—these are timeless.

The accompanying photographs were taken by the writer in the early months of 1952 while on a general survey of the Andean region made possible by a much appreciated grant from the Wenner-Gren Foundation for Anthropological Research, of New York.





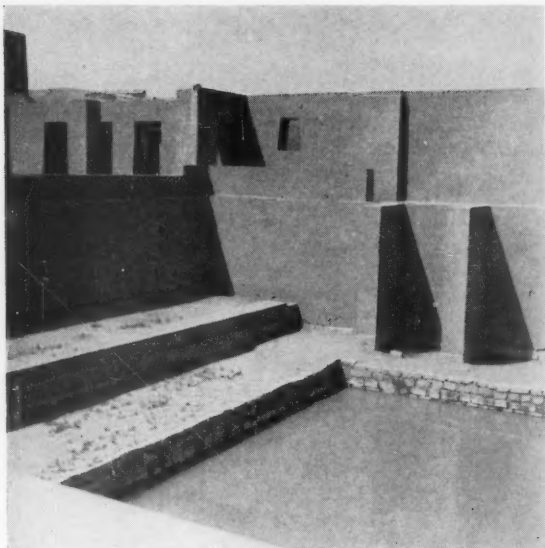
Cajamarquilla, Rimac Valley. Central Coast of Peru.

Only a few miles up the valley from the city of Lima are the ruins of the great city of Cajamarquilla (above), an immense area crowded with ruins of buildings and streets. Here the walls (right) were made of great blocks of mud, not of bricks, and probably molded in place. Almost no excavation has been done here, and plans of the site are very sketchy. The good state of preservation indicates a relatively recent period, probably about A.D. 1200.



(Opposite) Paramonga. Central Coast of Peru.

The great adobe ruin of Paramonga is presumed to be a fortress, possibly at the frontier of the Chimu and Cuismanco "Empires." The removal of debris reveals its majestic proportions. It is probably of relatively late date, A.D. 1000-1200.



Restoration at Pachacamac, Lurin Valley. Central Peru.

Pachacamac was the shrine of the god of that name, a local deity. In later years it was taken over and enlarged by the Incas. PIZARRO sent some of his men to this famous shrine in search of treasure.

Modern scientific stratigraphical excavations were inaugurated in Peru at this site by Dr. MAX UHLE in 1896 for the University Museum, University of Pennsylvania. These were later continued by Dr. JULIO C. TELLO, who restored part of the ruins of the Inca period. Excavations are still continuing at this famous and much visited site.

Rumicola, at Pikillacta. Near Cuzco.

Although close to Cuzco, Pikillacta ("Place of Fleas") is neither well known nor scientifically well studied. It is a great expanse of walls of rude stone supporting terraces and lining houses and streets. Few if any of the houses have doors or windows; they must have been entered through the roofs. It is pre-Inca and probably non-Inca, with a guess-date of A.D. 1200.

At a later period the Incas built, on the outskirts of Pikillacta, this magnificent wall to carry an aqueduct over a road. It is one of the finest examples of Inca ashlar masonry, of perfectly fitting blocks of stone with which no mortar was used or needed.





Tambo Colorado, Pisco Valley. Southern Coast of Peru.

Tambo Colorado ("Red Tavern") is doubtless the best preserved Precolumbian adobe structure in Peru. With the

roofs restored it could quickly be put in pristine condition. This is due to the fact that it is on a very late horizon, the Inca period, possibly about A.D. 1450, and is in a region which is almost absolutely rainless. The walls still retain much red and yellow painted surface.

Wauillac, Huaraz. Northern Highlands of Peru.

Throughout the highlands of Peru are masonry charnel houses known as *chullpas*. This one, in the suburbs of the city of Huaraz, has been slightly restored and maintained as a small park by the director of the Huaraz Museum, Dr. AGUSTO SORIANO INFANTE, shown at the left.



Inca walls in Cuzco.

Everyone knows of Cuzco, the old Inca capital. Some of the streets in the older sections of the city are, except for paving and sidewalks, just as PIZARRO found them in 1532, with Inca walls on both sides. Though the great recent earthquake felled or damaged most of the colonial and modern structures, the mortarless Inca walls stood firm.



The Colcampata, Cuzco.

Probably the best preserved structure in Cuzco is the Colcampata. The Incas used several different types of masonry in their walls, rectangular blocks in courses or irregular stones as in the next picture. It is now believed that all the

Inca structures in Cuzco were built after 1440 by the Emperor Pachacuti or one of his immediate successors. The existence of a pre-Inca "Megalithic Empire" is no longer given any credence.



**Ollantaytambo.
Urubamba River.**

Above the town of Ollantaytambo the Incas erected a fortress at the top of a terraced hillside. The admirable and astonishing masonry probably dates from the latter half of the fifteenth century. The setting is magnificent, and the architecture at least the equal of any in Peru.



**Tambomachay.
Near Cuzco.**

Not far from Cuzco is this jewel of Inca architecture, generally believed to have been a "week-end" resort for the emperor. The water from a hidden and never-failing spring has been led into a channel over one fall and divided lower down into twin falls. The masonry consists largely of polygonal blocks, each cut to fit its neighbors perfectly.



OLYNTHUS

—*The Greek Pompeii*

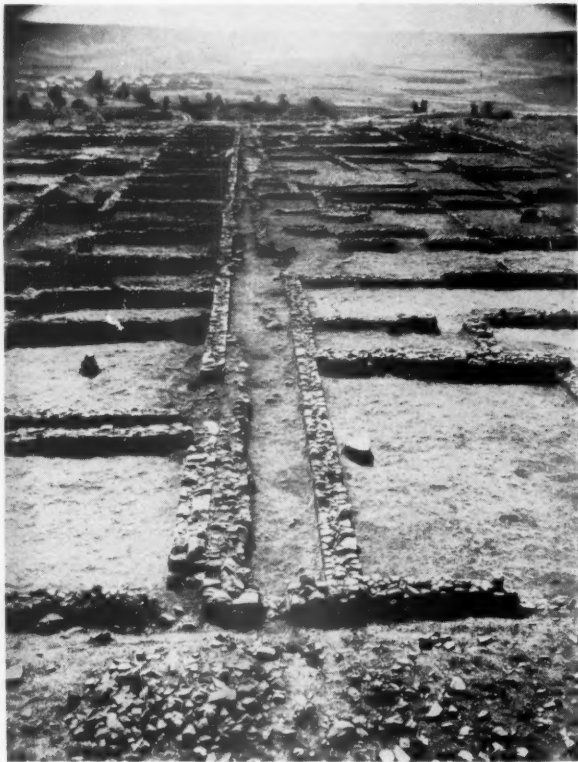
By David M. Robinson

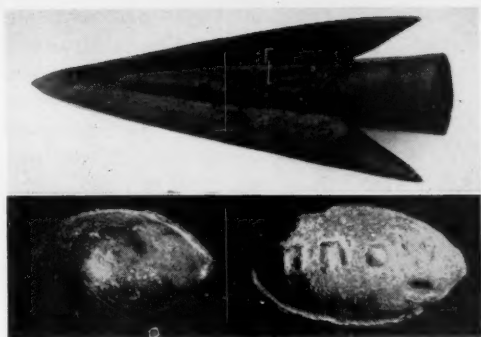
The remarkable results obtained by David M. Robinson's excavations at the site of Olynthus, in Macedonia, during four campaigns (1928, 1931, 1934, 1938) have been published in fourteen handsome volumes. The last volume, Terracottas, Lamps, and Coins Found in 1934 and 1938, appeared only a few months ago. For many years Vickers Professor of Archaeology and Epigraphy at the Johns Hopkins University, Dr. Robinson is now Professor of Archaeology at the University of Mississippi.

IN 1901 I TOOK A WALKING TOUR AROUND MACEDONIA, THEN A PART OF TURKEY, AND CAME TO THE mound of Hagios Mamas, marked on my maps as Olynthus. A few years earlier I had read in Xenophon's *Hellenica* that "nearly everybody knew that Olynthus was the largest and most important of the cities over against Thrace," and that in 381 B.C. "when the Spartan Teleutias was marching against the city of the Olynthians, the Olynthian horsemen rode out quietly and crossed the river which flows by the city" and lured him and his army back across the river. There are other references which prove that the river Sandanus ran between Olynthus and Potidaea. As there is no river between Hagios Mamas and Potidaea, I realized that Olynthus was wrongly located on the maps.

Walking east from Hagios Mamas I forded a river, the Resetnikia, and climbed a long low hill. There I picked up some red-figured potsherds, fragments of terra-cotta figures, a few coins and even some prehistoric pottery. The owner of the land showed me places where hoards of coins and terra-cotta masks were being stealthily excavated. As a result, I felt sure that this was not only a prehistoric site, as the word Olynthus itself indicated,

Part of the residential district on the north hill of Olynthus (looking west) as leveled by Philip of Macedon in 348 B.C. In the foreground is the pavement of Avenue B (see plan on opposite page); in the center is the alley running east-west through the block bounded by Streets VII and VIII. In the distance can be seen the modern village where the expedition was housed during the four campaigns.





Lead slingstones and bronze arrowhead, inscribed with the names of Philip and his generals, found among the ruins.

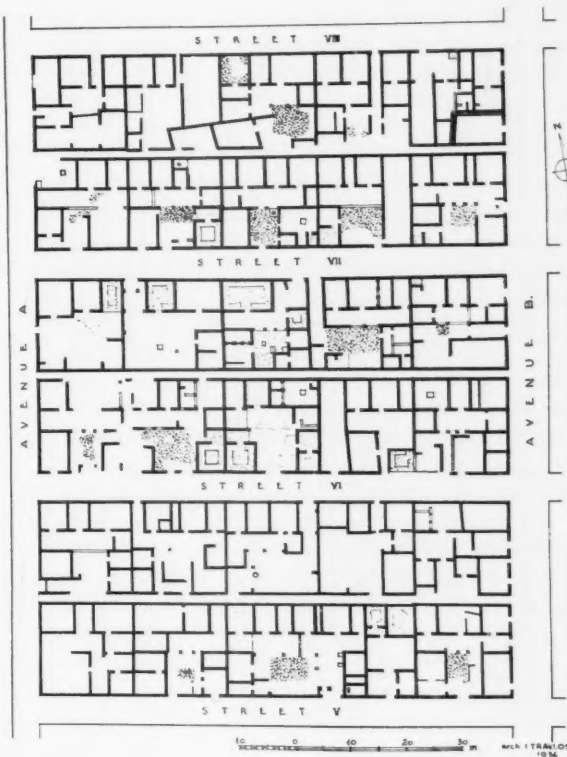
PHILIP TREATED Olynthus outrageously. It was utterly destroyed so that not a stone could be seen above ground and, according to Demosthenes, a passerby would hardly have realized that a city had ever existed on the site. Hundreds of lead slingstones and bronze-tipped arrows were poured into the town. One can picture the excitement of the young boy Alexander, then only eight years old, when he joined the soldiers looting and setting fire to the whole town. Only a few citizens, such as Satyrus who could tell jokes at

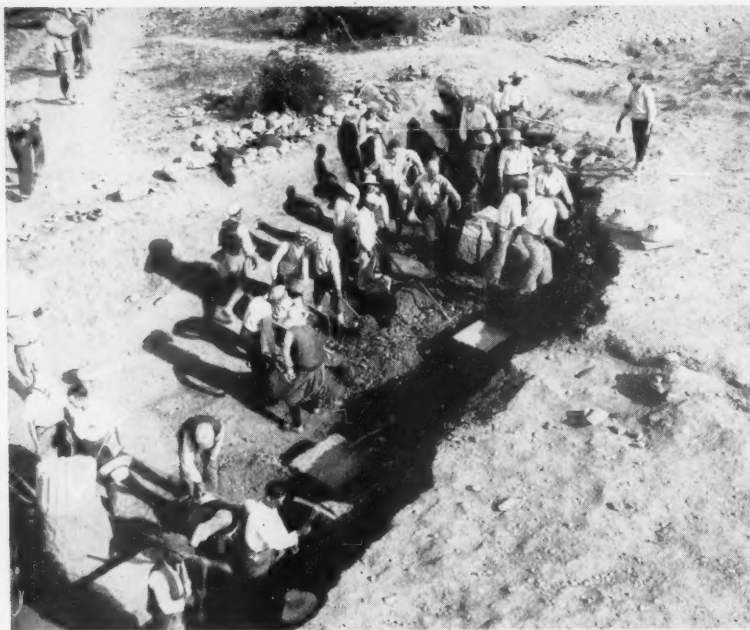
but that it undoubtedly was also a great classical city.

I had read Demosthenes' *Olynthiacs* and *Philippics*, speeches delivered while he was attacking the organized isolationist forces that dominated the politics of Athens. The democracies were slow to secure solidarity among themselves, but Demosthenes, trying to arouse aid for the Olynthians, warned of the menace which Philip was becoming in Macedon. His words bear a resemblance to those of CHURCHILL: "Observe, Athenians, the height to which this fellow's insolence has soared . . . he blusters and talks big; he cannot rest content with what he has conquered. He is always taking in more, everywhere casting his net around us, while we sit idle and do nothing. . . . It is obvious that he will not stop, unless someone stops him. And is that what we are to wait for?"

No attention was paid to Demosthenes' warning, and Philip built up a mighty military machine. He was no ordinary dictator to be content with Macedon, but aimed at conquering the whole world. Even with all his strength, he could not have taken without treachery the walls of Olynthus, with which in 356 B.C., only eight years earlier, he had made a solemn treaty (found on stone near Olynthus) swearing that he would always be a friend and backing it up with an oracle from Delphi. He was unscrupulous, defying man and the gods. Within a few years after the treaty the Olynthians became uneasy and made overtures to the Athenians, who agreed but failed, despite the efforts of Demosthenes, to provide support and so allowed Philip, in 348 B.C., to destroy Olynthus completely. He did so, but only with the traitorous help of a fifth column and such quislings as Las-thet... and Euthykrates.

Plan of three residential blocks on the north hill, laid out about 432 B.C. The Greeks loved variety in the midst of symmetry. Each block had ten houses, five on either of the long sides and divided by a narrow alley. Each house was supposed to be sixty feet square but practical considerations caused slight variations. All the houses were built simultaneously by one contractor with a continuous roof throughout the block. The resemblance to some of our contemporary rows of identical houses is great.





Digging out a public assembly building with Doric columns, dated to about 425 B.C. The author appears near the center of the photograph, holding his sun helmet and directing operations. At the upper left laborers are carrying away the excavated earth in baskets. Note part of paved road at upper right.

the banquet held by Philip in honor of the victory, were spared. Some escaped as refugees; many were sold into slavery. The Greeks were shocked, but their capitalists bought the Olynthians in the slave marts.

Such was the interesting history of this city of some twenty to thirty thousand people.

Our excavations began in 1928 and continued in 1931, 1934 and 1938. The complex equipment of the modern excavator was gradually assembled. Conditions were primitive—we did not even have electricity—but we were working in beautiful country. From the broad flat surface of the two long, steep-sided hills which rise abruptly above the rolling alluvial plain on either side, the view is unsurpassed. To the north is a long range of hills thickly forested with oaks and other trees such as furnished the wood to build the Athenian navy. To the south is the bay of Terone which lies between the two westernmost prongs of the trident-like

To bring water to a fountain house on the north hill from a mountain source ten miles distant, a terra-cotta aqueduct was laid in a tunnel cut in the rock. This neatly jointed turn of the pipe was found on our Avenue A.

Chalcidic peninsula. From the south hill we could see to the west Mt. Ossa, Mt. Pelion, and in the morning sun, miles away, snow-capped Mt. Olympus, the home of the Greek gods. In the afternoon sun there became visible fifty miles eastward the pyramidal sides of Mt. Athos which rises directly out of the sea.

THE NEOLITHIC city was at the extreme south end of the south hill. On this hill was later built the first classical city. It had a civic center, fountain house and arsenal. There were roads only along the east and west sides and a few irregular cross streets. The houses were primitive and irregular, though they continued to be used even after the destruction by the Persian Xerxes in 479 B.C. on his retreat from Salamis.

The most startling discovery was the heretofore unknown city laid out on the north hill in the Hippodamian, or checkerboard, plan about 432 B.C. As the only classical Greek city which has been excavated, it fills a gap between early Greek cities and the Hellenistic Priene, Pergamum and Delos. All the streets were straight, seventeen or more feet broad, and crossing at regular intervals to enclose



blocks exactly three hundred feet long by one hundred and twenty wide, a proportion of 5 : 2. At the last moment two of the principal thoroughfares were widened to twenty and twenty-four feet, so that the length of some blocks was slightly curtailed.

The civic center, or agora, had a fountain house furnished by an underground aqueduct that brought fresh spring water from ten miles away. The rectangular assembly hall and an army and navy store are now cleared. The Olynthians had their business section separate from the residential as in Algiers, Tunis and oriental cities, and in general did not use the lower stories of buildings for shops as the Romans did.

But the most interesting part of the city is the residential district where we have excavated more than a hundred houses. It



The bathroom was an important feature of Olynthian houses. This example shows a well preserved terra-cotta tub with a circular depression at the foot from which water was dipped to pour over the bather. Note the tiled floor and drain to carry off the water.



Bronze braziers provided heat against the Macedonian winter. This is an especially good specimen from Olynthus. As the fire burned in the upper pan, the whole metal surface radiated heat. Scale in centimeters.

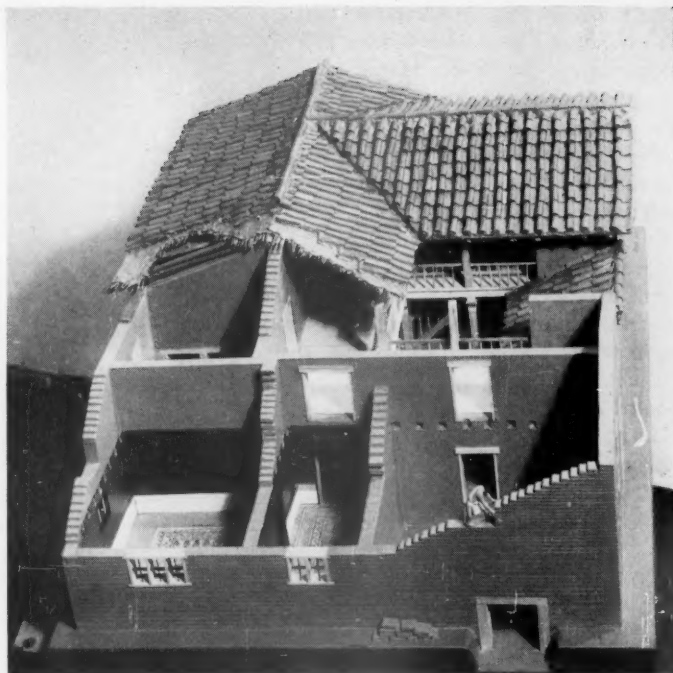
is the first example known in Greek history of a real residential development, planned and laid out solely for the erection of private houses. Some logic-bitten engineer and architect must have laid out on papyrus, wood or stone a regular city to forestall the random construction of jerry-built houses.

The typical Olynthian house had three or more rooms opening on a long portico, called the *pastas*, which in turn opened on a court. In winter the sun

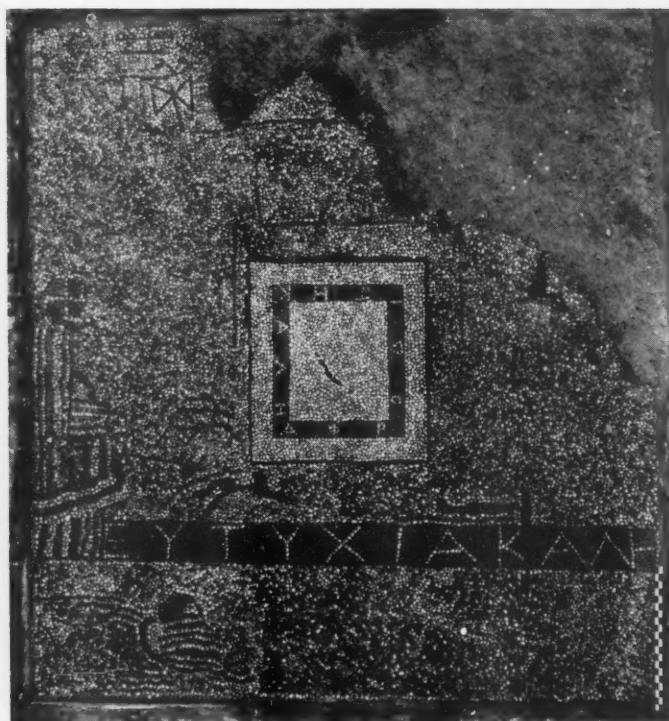
shone into the portico, keeping it warm. In summer, the sun being high, the portico remained in cool shade. This court in some instances had a peristyle with columns on three or four sides. Such peristyles had been thought to have been used first in Delian houses of the second century B.C. Around the court were the men's dining rooms (*andron*) with mosaic or cement floors and slightly raised borders on which the couches of the diners rested, kitchens with hearths and flues to carry off the smoke, bathrooms with plaster walls and tile floors, and rooms for general living purposes and for storage. The walls were frequently faced with a fine grade of plaster painted in "Pompeian" red or other colors, sometimes alternating. Often in the *andron*, where the owner entertained his men friends at dinner, perhaps with the help of pretty flute girls, the floor was a beautiful pebble mosaic, laid in cement, representing a lively mythological scene.

THE OLYNTHIAN house, unknown to Vitruvius, is a new contribution to scholarship. It has revolutionized our idea of the houses of the time of Socrates, Xenophon and Plato. The walls were of adobe brick, which is temperature- and sound-proof in a way few modern house walls are. The furniture was of wood and most of it has disappeared. Such houses, costing 500 to 5300 drachmas, were the homes of man and wife who could provide hoplite equipment, who

(Right) Model of an Olynthian house (the "Villa of Good Fortune"). We had always thought that classical Greek houses were small and squalid, uncomfortable and undeveloped. The excavations at Olynthus have completely changed this notion. This house had sixteen rooms, and many others were almost as large and had two stories.



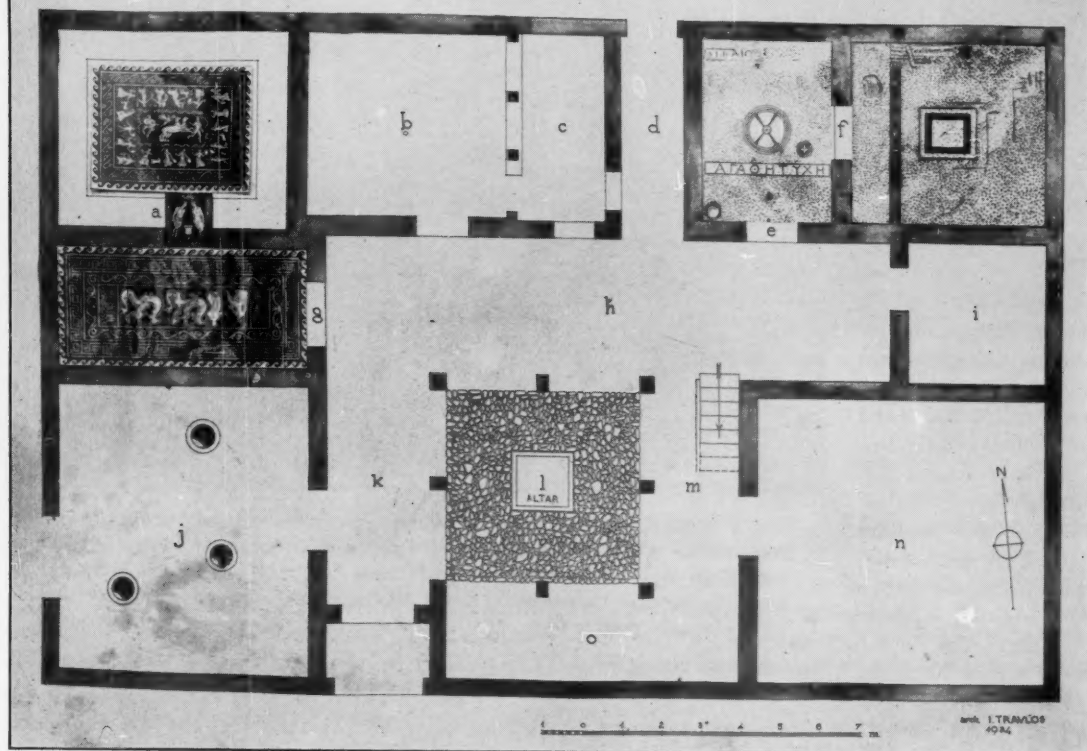
(Top, opposite page) The "Villa of Good Fortune," though larger than most other houses, has the plan typical of the fifth and fourth century houses at Olynthus. The main entrance leads to the court with, in this case, a peristyle and staircase. Kitchen, the dining and living quarters and other rooms are grouped around the open court.



(Left) The "Villa of Good Fortune" gets its name from two mosaics. One has a wheel of fortune and the wishful inscription "Agathe Tyche," Good Fortune. The one illustrated here, about five meters long, has a die in the center with the inscription "Aphrodite Kale" (which is the Venus, or best, throw of the dice—the three sixes).

(Right) In the portico to the andron of the "Villa of Good Fortune" a pebble mosaic shows Achilles seated on a rock. Thetis, his mother, approaches him followed by two attendants seated on sea serpents. The first carries his new shield (described by Homer), the second, his spear and helmet. The rich border of scroll, meander and wave patterns reminds one of oriental rugs.

THE VILLA OF GOOD FORTUNE RESTORED PLAN



owned a horse and perhaps three servants. The Olynthians often had beautiful vases, terra-cottas of all kinds, and many objects of bronze.

The best house uncovered, larger than the others, may have been a tavern or a gambling den. It had a good wine cellar where we found some jars with resin in the bottom, anticipating the modern Greek resined wine. Two mosaics in adjacent rooms had good luck symbols and slogans, so we have named this building the "Villa of Good Fortune." A group of three fine pebble mosaics was in the men's room and its vestibule and portico. That in the *andron* shows Dionysus in a chariot; the one in the portico represents Thetis bringing arms to Achilles; and in the vestibule, contiguous with both the larger mosaics, two Pans lean toward each other over



The floor of the *andron*, men's dining room, in the "Villa of Good Fortune" has a mosaic composed of nearly 50,000 pebbles. Dionysus rides in a red chariot drawn by two cheetahs. A winged Eros flies above and a horned satyr with Macedonian thyrsos runs ahead. In the border maenads dance while a satyr plays the double flute. The whole mosaic can be seen in the Villa plan.

a large crater, or punch bowl, affected by its contents.

WE HAD hoped to find many historical inscriptions at Olynthus, but to discover the earliest, and perhaps best, Hellenic mosaics was an unexpected dividend. Dating from the fifth and early fourth centuries B.C., they precede Hellenistic times (after 323 B.C.) to which all mosaics had previously been dated. They are done in pebbles and have a life, beauty and rhythm lacking in the mechanical cubes of Roman and Byzantine mosaics. Their drawing and composition are excellent. To students of art Olynthus is for mosaics what Athens is for sculpture.

The importance of Olynthus depends not only on the aesthetic value of the objects but on the fact that they permit us to date many types which had previously been assigned to the Hellenistic period (323-146 B.C.), in the preceding Hellenic period before 348 B.C. We now have Hellenic, not Hellenistic mosaics. We have the gridiron Hippodamian plan of a city before Hel-

The well-to-do Olynthian embellished his house with objects such as this bronze knocker from a front door, with its beautiful and decoratively worked lion's head.





More than six hundred graves have been opened at Olynthus, including a communal burial of twenty-six skeletons (nine shown here) and a painted chamber tomb in a great mound.

lenistic times. We have realism and caricature in art as well as idealism, and vases with stamped designs long before Alexander the Great. We have broken down the barrier between Hellenic and Hellenistic.

If one wants to study the domestic life and art and architecture of the Hellenes, he must go to Olynthus as he goes to Pergamum, Delos, Rhodes, Alexandria and Antioch for Hellenistic things. Perhaps the most interesting lesson of Olynthus, however, is conveyed in a speech of Demosthenes as he warned the Athenians against relying on Philip's good nature:

"It is folly and cowardice to cherish such hopes, to follow ill counsel and refuse to perform any fraction of your duties, to lend an ear to the advocates of your enemies and imagine that your city is so great that no conceivable danger can befall it. Ay, and a disgrace too it is to have to say when it is all over, 'Why! Who would have thought it? For of course we ought to have done this or that, and not so and so.' Many things could be named by the Olynthians today, which would have saved them from destruction if only they had then foreseen it. . . ."

A group of terra-cotta actors from Olynthus. Almost no other site in Greece has produced as many Hellenic examples of these figures. They attest a love of realism and caricature even in the classic fifth and fourth centuries.





Greece counts among her national treasures not only the monuments of classical antiquity but also the Byzantine churches which are scattered throughout the country, in mountain and plain, in city and barren field. The twelfth century monastery church of Hosios Meletios, on the slopes of Mt. Cithaeron, is shown above as rescued from decay by the Greek Archaeological Service. A thick coating of plaster, added long after the church was built, has been stripped to reveal the original masonry.

A PROVINCE OF THE EMPIRE

Byzantine Churches in Greece

By Alison Frantz

THE TRAVELER TO GREECE, WALKING THROUGH the streets of Athens for the first time, intent on finding his way to the Acropolis through a maze of narrow lanes, is suddenly brought up sharp and asks, "But what is that little church in the middle of the street, with the traffic going around it?"

To visitors in Western Europe the Middle Ages are a familiar phenomenon, but those same visitors seldom expect the land of Pericles and Plato to have produced in any age buildings other than those of the purest classical style.

Greece played its part, albeit mostly a minor one,

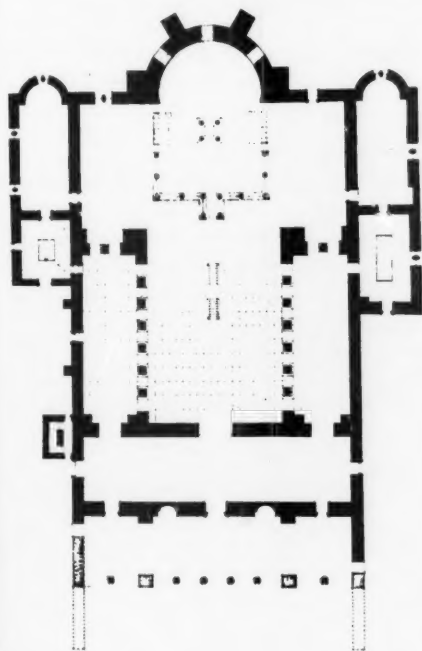
in the long history of the Byzantine Empire. Architectural forms in use throughout the empire likewise found their expression in Greece, although to the very end the classical flavor is a little stronger here than elsewhere.

The adoption of Christianity as the state religion did not immediately bring with it new forms of architecture. The great buildings of an outmoded religion lent their aura of sanctity to the new, and it is a tribute to the essential tolerance of the early Christians of Greece that instead of trying to eradicate old associations, they rededicated the shrines of pagan divinities

Huge piers of cut stone carried the dome and the ends of the arcades separating nave and side aisles in an Early Christian basilica in Philippi, commemorating St. Paul's first stop in Europe. Looking west from the space under the dome, we see also the narthex wall, built of alternating courses of brick and rubble, typical of buildings of fifth and sixth century Early Christian Greece.



In the earliest Christian basilicas the inner rows of columns ran in unbroken line from the west to the east wall, supporting either a timber or a vaulted roof. In the search after space, however, architects soon learned to place a dome over the area immediately in front of the apse, thus permitting them to shorten the colonnades and leave a wide open space around the sanctuary, as shown in the plan of the basilica at Philippi, below. (From Lemerle, *Philippes et la Macédoine orientale*.)



(Right) Classical Greece furnished the elements for ornamental design in later periods, but their treatment has been radically changed. Here the acanthus has lost its former plasticity. Free use of the drill produces a pattern of alternating light and dark by which the desired two-dimensional effect is achieved, as in this capital found at Philippi.





Walls instead of columns separate nave from aisles in this ninth century church at Skripou, Boeotia, which marks a transition from the basilica to the cross-in-square plan. The heavy transept foreshadows the equal-armed cross of the cross-in-square church, and the short, low-vaulted side aisles leading eastward from the transept into the lateral apses suggest the angle chambers of the later form. A dedicatory inscription places the church firmly in the year 873-74, in the reign of Basil I.

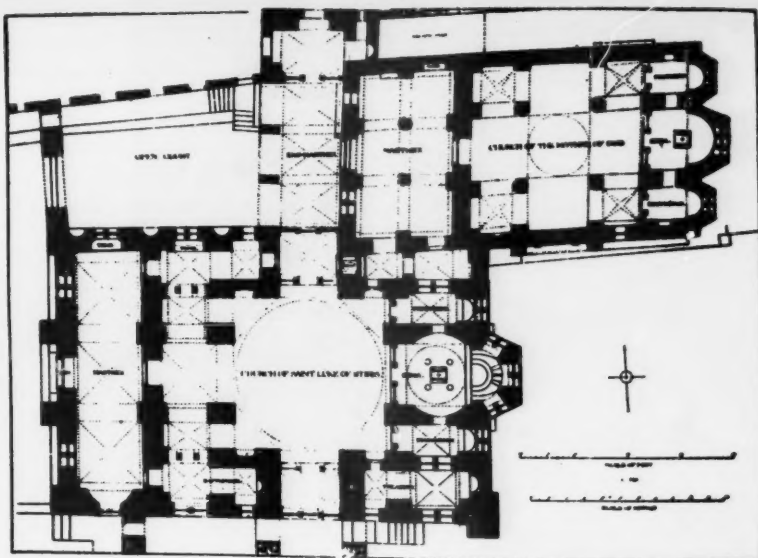
structures modeled on secular classical buildings, with the side aisles separated from the nave by processions of columns. The latter were sometimes made for the occasion; more often they were taken from some nearby ruined classical building. Few basilicas are preserved in Greece above the foundations, for the invasions of barbarians during the seventh and eighth centuries left the country desolate, but by the middle of the ninth century these foreign incursions were under control and Greece was beginning to build once more.

IN THE MEANTIME, the evolution which had transformed the Late Roman Empire into that complicated, unwieldy, but hardy structure, the Byzantine Empire, had also left its mark on the architecture of the period. Building based on classical models became

the exception rather than the rule.

Inspired by the greatest achievement of Byzantine architecture, the church of St. Sophia in Constantinople, architects were beginning to think in terms of space rather than of line; the starting point of a plan came to be the dome rather than the colonnade. Thus developed that peculiarly Byzantine structure, the so-called cross-in-square church. The plan derives its name from the fact that the core of the building is cruciform: a dome buttressed on each of four sides by a vaulted arm. At roof level the cruciform character is clearly discernible. But the angles between the arms of the cross are filled with small chambers roofed at a lower level, so that the ground plan is rectangular. The unit thus formed is therefore one structural and artistic entity, both weight and eye being led gently from the dome through successively lower supporting

The adjacent churches of the monastery of Hosios Loukas on the slopes of Mt. Helicon show two types of the cross-in-square plan. The church of the Virgin (above right) is the conventional type with the dome resting on four supports. The larger church (lower left) is a variant, with its dome carried on eight massive piers projecting from the wall. The dome is thus able to cover a space of twice the normal diameter. (Plan from Schulz and Barnsley, *The Monastery of St. Luke of Stiris, in Phocis*.)



members down to the ground. To this basic rectangle were added, on the east, a central apse flanked by two smaller apses, and usually, on the west, a narthex or entrance porch.

Inside, the dome rested on four columns or, more frequently in Greece, on two columns to the west and two piers to the east. The four arms of the cross were barrel-vaulted, and the angle chambers likewise

covered with barrel vaults or occasionally with small flat domes.

Each province of the empire adapted this form to suit local taste. Extreme height and an exaggerated pitch of the roof remind us of the architectural as well as the geographical remoteness of Armenia. Crete, under eastern influence, builds its walls of cut stone, with little or no use of brick. Constantinople and the

Villagers, using in large measure material from some ruined classical building, built the simple cross-in-square church of St. John in Ligourio, Argolis (left), which is in sharp contrast with the sophistication of the monastery church of Hosios Loukas (right). The plan and many-windowed facade of the latter betray close connections with Constantinople and indeed the monastery was probably founded by imperial order. But the essential elements of both churches are the same, and both were built in the eleventh century.





Salonica, the second city of the Empire, looked eastward to Constantinople, rather than southward to the rest of Greece. The influence of the capital is seen in the free use of brick, the numerous windows breaking up the facades, and the multiplicity of domes with their recessed arches and projecting cornices. Also to be noted, in the thirteenth century church of S. Katerina, are the barrel vaults which reveal themselves on the outside, not concealed by any gable.

A typical example of the cross-in-square church of the Greek mainland is SS. Theodore in Athens, dating from the middle of the eleventh century. The windows are few, and almost flush with the wall, making a smooth facade accented by ornamental brick work. More particularly Athenian, but imitated elsewhere, is the dome with its arcaded, non-projecting cornice.



The roofing reveals much of the inner structure of a cross-in-square church. Gable roofs running at right angles to each other cover the barrel vaults of the four arms of the cross while the small saucer-like roofs pushing up through the east-west vaults (one visible here) show that in this church the angle chambers are covered with small flat domes instead of the usual lower barrel vaults. The little triangles at the base of the dome house the pendentives by which the transition is made from the square formed by the four supports of the dome to the circle of the dome itself. (St. Nicholas, Karytaena, Peloponnese.)

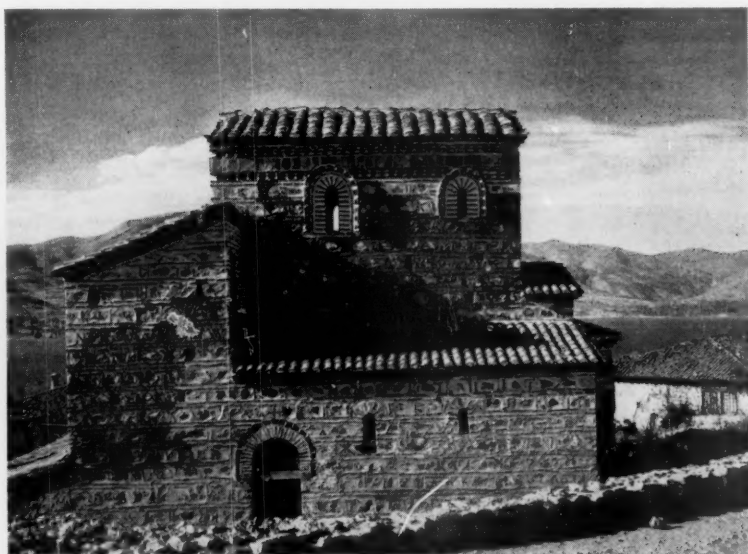


regions most directly under its influence incline to the use of brick to the exclusion of other building materials. Façades here are broken up by many windows and blind arches, and the windows of the dome are framed by recessed brick arches. The cornice of the dome usually follows the curve of the arches, projecting beyond them, with a saw-tooth brick pattern making a transition between roof and drum.

Mainland Greece, illustrated here by some of its less frequently published churches, develops its own type of masonry, consisting of cut stone, each block being separated from its neighbor, both vertically and horizontally, by one or more bricks. Façades are much plainer than those of the capital and tend toward flat unbroken surfaces with few windows. Domes like-

wise are simpler, their windows being flush with the masonry. In Athens, and occasionally elsewhere, the arches push up into the roof with little or no projection of the cornice. More often an undecorated horizontal cornice rests on the tops of the arches.

THE MANY modifications which found their way into the cross-in-square churches are a reflection of the disparate elements forming the Byzantine Empire. But the fact that for five hundred years the same basic plan was common to all these far-flung regions is an equally telling reminder of the vital force that enabled Byzantium to contain the ever-increasing expansion of the East and to preserve the culture of classical Greece until western Europe could take up the task.



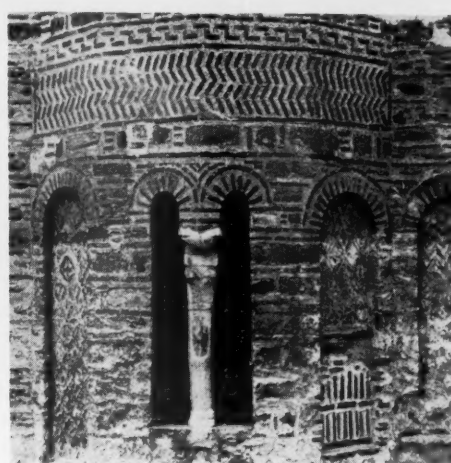
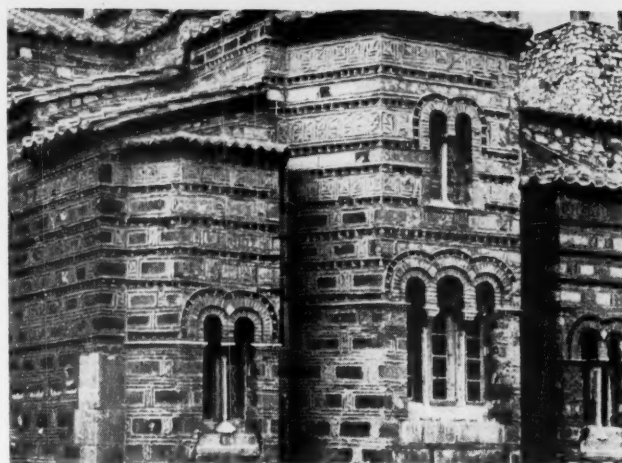
The basilica plan remained in favor in some parts of northern Greece, but its proportions are much reduced and the late Roman masonry has given way to the characteristic Byzantine form. The very high nave of the church in Kastoria, Macedonia, is typical of the churches built there soon after the expulsion of the Bulgarians in 1018 A.D. The high narthex on the west has two stories, the upper providing a gallery for the women.



Arta, the capital of the Despotat of Epirus, derived ideas from east and south. One of the few regions which the Latins failed to incorporate in their empire after the conquest of Constantinople in the Fourth Crusade, the Despotat maintained an independent although stormy existence until the Latin Empire was overthrown in 1261, when it joined the restored Byzantine Empire. Natural communications led south, toward Naupactus and central Greece, but close connections were maintained with the capital by Anna Palaeologina, daughter-in-law of one of the Despots and a member of the Byzantine imperial family. Both currents may be recognized in the church of the Paregoritissa, built by Anna and her husband Nicephorus about 1295. The masonry belongs to the Greek school but the domes, both in character and in number, are inspired by Constantinople. The continuation of the whole structure through three stories reflects imperial palace architecture.

The cross-in-square in miniature dots the Greek countryside. Among the impressive ruins of the ancient Greek fortifications at Aegosthena nestles this tiny church, too small to admit of angle chambers but otherwise preserving the traditional form. In some other churches of this size the angles were filled with solid walls to approach more closely the appearance of their larger relatives.





Cut stone and brick masonry allowed much diversity in the decorative treatment. In its simplest form a single brick marks each of the vertical and horizontal joints. In the twelfth century church of the Koimesis at Chonika, Argolis (upper left), the monotony is relieved by introducing a cross, consisting of large blocks rising through nine courses of masonry, on either side of the door. A legacy of the Arab invasions is the ornamental Cufic writing which formed the basis of many decorative patterns in Byzantine art. Single units, intermingled with Christian symbols, were used to separate blocks in

the church of the Holy Apostles in Athens (upper right), dating from the early eleventh century. In the probably contemporary church of the Panagia at Hosios Loukas (lower left) further elaboration was achieved by the multiplication of bricks in the horizontal courses and by the use of whole courses of continuous Cufic ornament. In northern Greece particularly the regular masonry was frequently interrupted by broad stretches of brick work set in a variety of geometric patterns, as in the thirteenth century church of the Panagia Olymptissa in Ellassona (lower right), southern Macedonia.



Dr. L. Cabot Briggs, Director of Algerian Studies for the American School of Prehistoric Research, in the following report prepared especially for *ARCHAEOLOGY* presents a general account as well as the highlights of the . . .

Second Pan-African Congress on Prehistory

NEARLY ONE HUNDRED AND TEN MEMBERS were present at the Second Pan-African Congress on Prehistory, which met at Algiers on September 29th, 1952 and continued, on a very full schedule, to the closing session on the evening of October 4th.

The Congress, presided over by the Abbé HENRI BREUIL, was divided into three sections: Geology, Palaeontology and Climatology (Section I), Human Palaeontology (Section II) and Prehistoric Archaeology (Section III). It is not practical to summarize here all of the ninety papers presented, for many concerned matters of technical detail and are of interest only to specialists.

In the field of prehistoric art there were communications by such authorities as P. BOSCH-GIMPERA of Mexico, L. S. B. LEAKEY of Kenya, B. E. B. FAGG of Nigeria, R. MAUNY of French West Africa and others. These served mainly to fill in gaps in our knowledge of the details of distribution of various art styles, but little was added to theories of stylistic origins and diffusions with which we are already familiar. No new evidence as regards dating, other than in terms of relationships between styles, was presented except by LEAKEY, who reported the discovery in central Tanganyika of palettes and crayons in association with a Nachikufu-like industry, which suggests that the art series of the site probably had its beginnings in the late Stone Age. Two evening lectures by the Abbé BREUIL, both richly illustrated, gave interesting *vues d'ensemble* of the rock paintings and engravings in the region just North of the Hoggar massif in the Sahara, and of the whole South African series, including a detailed re-examination of the much discussed "White Lady of Brandberg."

In the field of prehistoric archaeology the main result was again the filling of gaps in our knowledge of the details of distribution of various older lithic industries. Papers of more general interest included those of the Reverend DOM ANCIAUX DE FAVEAUX of the Belgian Congo, L. BALOUT of Algeria, Dr. J. DESMOND CLARK of Northern Rhodesia, B. E. B. FAGG, and Dr. G. MORTELMANS of Belgium. The main contribution of this group was to clarify the situation in that broad and hitherto little known belt which separates the relatively well documented major areas of northwestern and southern Africa.

VALUABLE CONTRIBUTIONS to our knowledge of the possible origins and subsequent diffusions of later stone age industries were made by Professor A. C.

Algiers, Bardo Museum. Interior court in the ethnographic section. Photo by courtesy of L. Balout.

Photo Camilleri, Algiers



BLANC of Rome, L. R. NOUGIER of France, the Abbé ROCHE, also of France, and others. D. L. PERICOT Y GARCIA of Barcelona made the point that the "Spanish Solutrean" of Parpalló, although perhaps not the same industry as the Aterian-cum-foliate of Tangier, is in his opinion surely related to it. BREUIL, in commenting on this hypothesis, maintained that the "Spanish Solutrean" must have come from France. Dr. H. L. MOVIUS, JR. of Harvard University, on the other hand, expressed full agreement with PERICOT's theory, and added that the old and purely typological approach has now been proven inadequate, so that we must enlarge the scope of our investigations and take into account evidence furnished by other disciplines. He emphasized that the Tangier Aterian is surely older than Parpalló, and that cultural diffusion can often be explained on the basis of cultural contacts alone without the necessity of postulating wholesale migrations of culture-bearing groups.

A. C. BLANC, expressing his agreement with BREUIL, called attention to the fact that early collectors saved only the "jewels" from their excavations, so that the relatively crude "Spanish Solutrean" may not in fact be so different from the French Solutrean as it appears. Professor L. BALOUT stated that the presence of S'baïkian foliates (in which he includes those of Tangier) "of a technique entirely different from that of the true Solutrean" of France, is not unusual in Aterian complexes, but that since this tradition is basically different from that of the French Solutrean, we may suppose that the "Solutrean" of Parpalló was derived from French sources without postulating typological influence from Africa. And here the discussion ended, leaving moot the main point at issue, which we can hardly hope to clear up without extensive excavations in the untouched area of southernmost Spain.

H HUGOT of Algeria presented evidence that seems to indicate a southwesterly extension of the Capsian culture, well into the central Sahara, far greater than has been imagined up to now.

R. MAUNY demonstrated for the first time the presence in the extreme southwestern Sahara of an industry in which Aterian points are associated with foliates, forming a complex apparently not unlike those of Tangier and Parpalló.



Photo Briggs

Tipasa (in middle distance). New excavations around the Chapel of St. Peter and St. Paul. Mount Chenoua in the background.

Dealing with a still later period, G. CAMPS of Algeria explored the extent of Phoenician and other classical influences in the pottery from megalithic tombs in the Department of Constantine, a subject of great interest which has never received more than very superficial attention.

In addition to the papers presented in the field of archaeology, there were three evening lectures in which the prehistory of Morocco, Algeria and Tunisia was masterfully reviewed by the official authorities of the three areas, M. ANTOINE, L. BALOUT and Dr. E. G. GOBERT, with the help of a great number of excellent slides, many of them in color.

Contributions in the field of human palaeontology were relatively few, but of considerable interest and no little importance. Dr. A. C. ALLISON of Oxford gave a detailed report on the most recent developments in the study of blood groups in Africa and on the light that this field of inquiry may be expected to throw on the prehistoric migrations and ultimate origins of the inhabitants of that continent. He called attention to the distinctive characteristics of Negro and negroid blood and their extension westward through the regions bordering on the Indian Ocean. He also pointed out that the mountain Berbers of Northwest Africa are serologically distinct from all other Mediterranean populations and show a striking resemblance in some respects to the Basques.

Dr. S. ALCOBÉ of Barcelona presented a fragmen-

tary human frontal bone from a new site known as *Barranc Blanc*, a little over half a mile from Parpalló. This fragment, from the terminal phase of the "Spanish Solutrean," shows a formation of the supraorbital region of a sort that I have not observed except in skulls from the Mesolithic of Northwest Africa. ALCOBÉ also showed slides of the child's skull from Parpalló, and this again seems to me to have its closest morphological parallels in Northwest Africa rather than in Europe: but one is on very thin ice indeed in attempting to draw any firm conclusions from such sparse and fragmentary material.

PERHAPS THE MOST impressive single communication of the whole Congress was the presentation by Dr. L. S. B. LEAKEY of an astounding collection of absolutely perfect fossil insects and soft fruits from the Miocene beds of Kenya in which the remains of *Proconsul* were found: no such perfect true fossils (for they are not casts) have ever been found before. The assemblage demonstrates a savannah type of environment for *Proconsul* and his Miocene neighbors in East Africa, and from this, together with certain anatomical evidence, LEAKEY draws the conclusion that Man did not, as has often been supposed, pass through an arboreal stage in the course of his early evolution. But this, like the question of the relationships, if any, between *Proconsul* and the Australopithecine and Human ancestral stocks, must remain a subject of general discussion for some time to come.

The rich collections of the Bardo Museum were shown to us by its director, MAURICE REYGASSE, and so we were able to meet briefly this pioneer of North African prehistory.

AN EXCURSION before the opening of the Congress took some twenty-odd members on a round of several sites in eastern Algeria and Tunisia, including Aïn Hanech which, with its villafranchian fauna, "boules" and hand axes, may prove to be the oldest human habitation site yet known on the entire continent. The program was thrown badly off schedule by a short but extremely violent storm, in the southern part of the Department of Constantine, which buried the road at several points in torrents of mud and huge stones and flooded large areas. As the travelers entered Tebessa they were greeted by the spectacle of rescue squads extracting the bodies of victims from the ruins of collapsed houses. But this cataclysmic downpour, which lasted not even half an hour, served

as a splendid illustration of the kind of violent erosion to which the semi-arid topography of the northern fringes of the Sahara is sometimes subjected.

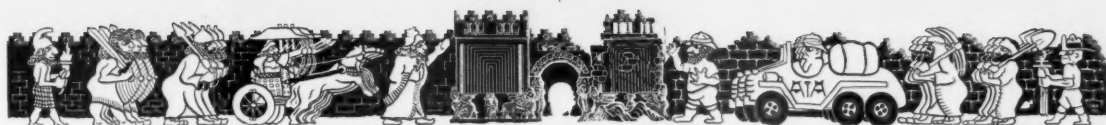
Two short excursions during the Congress took members to various points of interest, such as Bérard and Aïn Taya, where the relationships between archaeological deposits and the present and past levels of the sea can be examined. On the first of these we saw also the Roman and early Christian ruins presently being excavated at Tipasa, and the imposing and mysterious ancient Berber monument known locally as the *Tombeau de la Chrétienne* [see *ARCHAEOLOGY* 2 (1949) 88-90]. A delicious luncheon set in the beautiful surroundings of Mount Chenoua gave us a welcome moment of relaxation in the midst of more serious pursuits.

A final excursion left Algiers on the morning of October 5th, taking the participants on a tour of the more important sites in the Department of Oran, and so on across Morocco to the Atlantic coast at Rabat and southward as far as the region of Marrakech.

The reader should not imagine that, for all our serious activities, the social side was neglected: far from it. Official receptions by the various local authorities were the order of the day in the field as well as during the Congress proper. The high point was the evening when the Governor General of Algeria, Monsieur ROGER LÉONARD, received us in the fairy tale atmosphere of the Summer Palace with its majestic and yet delicate Moorish style and vast floodlit gardens. Hardly less memorable was the banquet at the Rowing Club, from which we looked across the old pirate harbor whose waters threw back to us in dancing reflection the myriad lights of the City rising up into the starlit night beyond.

AND LASTLY I should say here that the routine organization of the Congress was indeed admirable. Rarely has so complex and crowded a program been run off as smoothly as was this one under the ever watchful direction of Professor LIONEL BALOUT and of Monsieur DENYS ROLS, Assistant Director of the Government General in charge of Beaux Arts, ably and always cheerfully seconded by the members of their staffs.

Those who may wish to secure literature or further information should address their requests to the *Secrétariat du II Congrès Panafricain de Préhistoire, Laboratoire du Musée du Bardo, 3 rue Franklin Roosevelt, Algiers, Algeria*.



ARCHAEOLOGICAL NEWS

Obituaries

During the past several months archaeology has lost not a few eminent members of the profession:

On August 23rd, Sir **FREDERIC KENYON**, distinguished authority in the Near Eastern field, formerly Director of the British Museum;

On September 12th, **M. RENÉ GROUSET**, author of many works on Oriental Art, Director of the Musée Guimet;

On October 17th **Dr. OLIVER G. RICKETSON**, formerly of the Carnegie Institution, excavator in Guatemala and the United States;

On October 20th, Professor **MICHAEL I. ROSTOVITZ** of Yale University, excavator of Dura-Europos, author of many fundamental works on ancient history and archaeology;

On December 7th, **PHILIP L. GUY**, British archaeologist, excavator at Megiddo, Director of the Archaeological Survey of Israel.

Arthur Stanley Riggs

On November 8, 1952, at Washington, D. C., the versatile career of **ARTHUR STANLEY RIGGS** came to an end. For many years Editor of *Art and Archaeology*, he recently served on the Editorial Advisory Board of this periodical. Among his published works are a volume on Titian and one on Velasquez. He had nearly completed a biography of Sir Francis Drake. One of his many interests was displayed in the article "Did El Greco Need Glasses?", which appeared in the Spring 1951 issue of *ARCHAEOLOGY*.

Ancient Americans—in Oregon

The oldest articles of human manufacture thus far dated are sandals made of fiber and some basketry decorated with a false embroidery found under a layer of pumice in Fort Rock Cave, Oregon, by **Dr. L. S. CRESSMAN** of the

University of Oregon. The age, as determined by **Dr. W. F. LIBBY** and his associates from the relative amount of radioactive carbon remaining in the vegetable fibers, is approximately 9,000 years. This places the basket weavers and sandal makers as at least contemporaries, and possibly forerunners, of Folsom man whose javelin points have been found associated with the bones of animals which became extinct about the end of the last ice age.

The Fort Rock cave material shows that these ancient Americans had reached a fairly high degree of primitive culture. The sandals, especially, show a fine manufacturing technique. Folsom man remains one of the oldest occupants of this continent. For the past twenty years there has been considerable dispute over the period in which he flourished. Perhaps the best date, up to now, is about 9,800 years—the carbon 14 dating for material found at a site near Lubbock, Texas. This material was associated with Folsom points, which are quite characteristic and cannot easily be mistaken for later Indian artifacts.

—in Virginia

Stone javelin heads characteristic of some of the earliest known inhabitants of the New World are among artifacts recovered along the Roanoke river in southern Virginia. Excavation of eleven sites was carried out in an 88,000-acre tract to be covered by the waters of the John H. Kerr Reservoir. The work was done by **CARL F. MILLER** of the Smithsonian Institution's Bureau of American Ethnology, which is cooperating with the Corps of Engineers and the National Park Service in the Inter-Agency Program for the Salvage of Archaeological Remains.

The findings indicate two main cultural horizons, the first characterized by so-called eastern type Folsom points, the curiously fashioned stone projec-

tile heads similar to those that in the west have been found in close association with extinct animals. The second culture was that of a much later pottery-making people who settled here about two thousand years ago. In the interval between the Folsom occupation and the later occupants, other early groups probably were present.

Cleveland Meeting

The fifty-fourth General Meeting of the *ARCHAEOLOGICAL INSTITUTE OF AMERICA* was held at the Statler Hotel in Cleveland, December 28-30, 1952. The program was unusually interesting, and, for the nearly 300 members who attended, the meeting as a whole was an undoubted success. The first series of papers, on Sunday afternoon, included a variety of subjects (summaries of all the papers appear in the *AMERICAN JOURNAL OF ARCHAEOLOGY*). **Dr. IDA BOBULA** attempted to show a connection between the archaic Sumerian mother goddess Ba-ú and the pagan Hungarian goddess Boldogasszony, who had similar functions. Following her, **Mrs. NEONILA K. HOLOVKO** reported on excavations of a prehistoric settlement of the Trypillian culture in Uman District, Ukraine. The largest of all such settlements, it contained no less than 200 dwellings, made of wood and clay bricks, as well as house models and many artifacts. **SAUL S. WEINBERG** then spoke on Corinthian relief ware, assembling fragments from the seventh to fourth centuries, and showing the influence of the earlier types on Sicilian relief ware. The later pieces he believes may be equated with the Thieric vases mentioned by Athenaeus. **Mrs. THALIA P. HOWE** identified the subject of the fourth play of Aeschylus' tetralogy on the Perseus theme as being the conception, birth and expulsion of Perseus, basing this identification on four Attic vase paintings of 490 B.C. whose similarity

suggests a single visual prototype. Finally, CHRISTOPH W. CLAIRMONT spoke on a new red-figured pyxis in Switzerland which shows Danae and Perseus in Seriphos.

On Sunday evening Professor JAKOB A. O. LARSEN, retiring president of the American Philological Association, gave an address entitled "The Judgment of Antiquity on Democracy." We quote from his concluding remarks:

... The greatest contribution of Greece was the theory of the superiority of the collective judgment of the people—a doctrine without which, expressed or implied, democracy is impossible. Her second contribution was her actual experiment with democracy. This continued long enough to include a prolonged effort, both by friends and enemies, to change or reform democracy . . . but finally Greece completely abandoned democracy and turned to forms of government which already had been tried and found wanting. Rome . . . never developed a government as democratic as that of Athens. Yet, before she finally surrendered almost completely to strong men and monarchy, she too experimented with reforms in the machinery of the old republican government. Nevertheless, the final verdict of the ancient world seems to have been that everything else had failed and that the only choice left was monarchy. Forward-looking observers might have remarked that also it had failed before and was certain to fail again, and that the adoption of monarchy was nothing but a counsel of despair.

Is this the final lesson which we are to learn from antiquity, that all forms of government have failed and will fail again? I think not, that is, unless we view institutions from the point of view of an eternity in which nothing human is permanent. There is hope, but this . . . depends on avoiding the mistake of the ancients of abandoning popular government. We need to recover faith in the collective judgment of the people and to continue to keep the ultimate control of government in the hands of the voters while attempting to reform our system in such a way that the control can be effective and intelligent. . . .

The session on Monday morning, December 29th, began with a paper by Miss CARLA GOTTLIEB, who argued for a revised restoration of the facade of Temple A at Prinias, Crete, on the basis of a re-examination of the evidence. Her paper was followed by that

of FREDERICK E. WINTER, who, in applying the writings of Philo of Byzantium to the study of Hellenistic fortifications, showed the possibility of securing further information about the defensive strategy of that period. J. WALTER GRAHAM discussed the "House of Many Colors" found at Olynthus, presenting evidence for a second story, for a roofed courtyard altar hitherto known only from vase paintings, and for other details. The fourth paper, by HARRY J. LEON, examined data concerning the ancient Jewish colony of Venusia, Italy. A new study of the inscriptions found there has produced interesting information about this community. Miss LOUISE A. SHIER's paper dealt with Roman lamps and lamp makers of Egypt, particularly those of Karanis.

The papers on Monday afternoon were entirely concerned with Greece. CEDRIC BOULTER presented a group of pottery of the mid-fifth century B.C. found in a well in the Athenian Agora. A general report on the 1952 excavations at that site was given by HOMER A. THOMPSON [this has appeared in *ARCHAEOLOGY* 5 (1952) 145-150], and he was followed by HENRY S. ROBINSON, who discussed various kinds of mold-made pottery of the third century A.D., also found in the Agora. The results of the first (1952) campaign at Isthmia [see *Archaeological News* in *ARCHAEOLOGY* 5 (1952) 121] were described by the excavator, OSCAR BRONEER. In the final paper of this session CHARLES H. MORGAN presented new interpretations of two legends concerning the sculptor Pheidias.

The high point of the meetings was undoubtedly the symposium, "New Light on the Mycenaean World," which followed the joint banquet with the Philological Association on Monday night. The members were welcomed by WILLIAM MILLIKEN, Director of the Cleveland Museum of Art, and then, in succession, three outstanding authorities on the Mycenaean civilization presented the spectacular discoveries which each has made during the year 1952. To the inherent appeal of the finds was added the personal quality which can be given only by the excavator himself, and the further attraction of pictures in color gave an almost complete feeling of reality. Each of the reports presented has appeared or will appear

in *ARCHAEOLOGY*. CARL W. BLEGEN's article, "The Palace of King Nestor," appeared in the Autumn issue; "The New Shaft Graves of Mycenae" by GEORGE E. MYLONAS is found in this issue; and A. J. B. WACE's article on "Excavations at Mycenae 1952" will shortly appear.

The Tuesday morning session began with a paper by DOROTHY K. HILL, presenting two Praenestine cistae in the Walters Art Gallery, one having scenes from the story of Helen. GILBERT BAGNANI discussed a Roman tomb which belonged to Patro, a Greek-speaking Roman citizen. The frescoes were demonstrated to be of Asiatic style. The third paper was a discussion of Parthian sculptures from Hatra, by HAROLD INGHOLT, and lastly JOHN L. CASKEY reported on recent trial excavations at the prehistoric site of Lerna, in the Argolid, Greece. We hope to have a full report on this in a later issue.

On Tuesday afternoon PORPHYRIOS DIKAIOS described his recent excavations at Enkomi in Cyprus; an article on these discoveries may be expected in a coming issue. HUGH HENCKEN discussed the origin of several early types of helmets, tracing them through various European countries. An interesting series of color slides of Greece and Rome, taken from an airplane, was shown by RAYMOND V. SCHODER S. J. Some of the pictures gave an entirely new conception of sites long familiar from conventional angles. The last paper of the meeting, by GEORGE LECHLER, concerned the Kingsbarrow Seddin in Germany and its relation to middle Italy.

Many members managed to squeeze in a visit to the Cleveland Museum of Art, which possesses outstanding treasures of many periods and places. All who attended these sessions will look forward to the next General Meeting to take place in New York in December 1953, under the direction of the newly elected president of the INSTITUTE, HENRY T. ROWELL.

ARC Director

The Director of the American Research Center in Egypt for the year 1952-1953 is Mr. JOHN D. COONEY, Curator of Egyptian Art at the Brooklyn Museum. His address is c/o United States Educational Foundation for Egypt, Taghr Building, Sharia el Shama, Garden City, Cairo, Egypt.



Cemetery of Eleusis. Clay coffin with offerings around it next to a built Late Middle Helladic grave.

Work in Greece

During his year as Visiting Professor at the American School of Classical Studies (1951-52) Professor GEORGE E. MYLONAS of Washington University accomplished an amazing amount of archaeological work. He was director or co-director of no less than four separate archaeological investigations; he also participated in the dig at Pylos [described by C. W. BLEGEN in *ARCHAEOLOGY* 5 (1952) 130-135]. The results of his work at Mycenae are reported in this issue (pages 194-200). Concerning the excavation at Aghios Kosmas, resumed after a long interval caused by the war, Professor MYLONAS writes as follows:

Excavations were resumed in October 1951. The stratigraphic evidence of the site was verified. A good section of the Early Helladic settlement was revealed and a number of Early Helladic graves were investigated. They yielded a variety of small vases and a great quantity of obsidian. The history of that site is now clear and definite. It was abandoned at the end of the Early Helladic period to be re-occupied in Late Helladic II times, and again abandoned at the end of the prehistoric age. In classical times its soil served the pot-makers of Athens and on its summit the sanctuary of Aphrodite Kolias was erected.

During the spring Professor MYLONAS excavated at Eleusis. This was also a continuation of a pre-war project. The results were most interesting, as he tells us in the following account:

Excavations at Eleusis (by Washington University and the Greek Archaeological Society under the auspices of the latter) were resumed in



Cemetery of Eleusis. Central section of excavated area. Built graves are prehistoric; tile graves, stamnoi burial and interment of historic period.

February 1952. A small portion of the sanctuary area at the foot of the northeast corner of the Philonian stoa, which had remained unexcavated, was cleared to rock level, and the well at the foot of its foundations was investigated. As a result the stratigraphic details of the sanctuary from 1500 B.C. to 400 B.C. were established, a road leading to the earlier archaic gate was revealed, the foundations of what seems to be a shrine of Late Mycenaean times with its libation bothros were brought to light, as well as earlier remains of houses going as far back as the Late Middle Helladic period. The well yielded some pottery, which, however, cannot be considered as conclusive evidence of its date. It seems that it was filled and abandoned after the Persian destruction of the sanctuary in 480 B.C.

The cemetery of Eleusis on the road to Megara was also investigated in March and April. In a small area of about fifty square meters a total of forty-one graves was explored. The earliest belong to the Late Middle Helladic period and illustrate the development of the cist grave of small dimensions toward the built grave of great dimensions with a door opening on one of its longer sides. They also show the development of the custom of multiple burials evolving from the single flexed burial and the gradual increase in popularity of the placing of offerings in the graves. The Middle Helladic graves were used in Late Helladic III times and then the area seems to have been abandoned until the end of the sixth century when burials were packed between the prehistoric graves. Those of historic times include tile graves, stamnoi and clay coffin burials of children, cremations and simple interments. A great many vases, mostly lekythoi, found in and around these burials prove the use of the plot until the first century before Christ.

About one-tenth of the cemetery has been investigated thus far and it has yielded some two hundred and fifty vases and a variety of smaller ob-

jects such as necklaces, strigils and terra-cotta figurines. The work will be continued next summer.

Finally, he undertook a most interesting and unusual project: the location of the ancient ship sunk off the coast of Artemision, which in 1928 yielded the famous bronze statue of Zeus and the horse and jockey group. Participating in the work, which lasted a week, were representatives of the Greek Archaeological Service, which placed the S.S. *Alkyone* at the disposal of the expedition. Five divers were employed. After three days the wreck was located, but it was found to be covered with a deep layer of mud which will require long and persistent effort to remove, as well as special tools. Since the time at the expedition's disposal was limited, complete investigation was postponed. When it is possible to resume the work, we should be able to look forward to some very interesting discoveries.

Photographs from Athens

The large collection of photographic prints and negatives, built up by the German Institute in Athens before the war, has suffered few losses and is once more in order. Enquiries and requests for prints should be addressed to the Secretary of the German Archaeological Institute, Dr. EMIL KUNZE, 1 Pheidias Street, Athens. Requests should include all the known data for a given picture: Institute negative number; museum number of object; publication reference.

A small collection of new pictures is also available. ALISON FRANTZ has prepared a selected list of black and white

pictures of Greek sites and monuments other than the Athenian Agora; she will be glad to send this list to anyone interested. The emphasis is on pictures suitable for teaching use in architecture, history and fine arts. Enquiries should be addressed to Miss FRANTZ at the American School of Classical Studies, Athens, Greece.

Museum Reopening

New York University's Archeological Museum, featuring objects excavated at Tel-el-Farah (1929-30), Tel-el-Ajjul (1930-31), and Tel Duweir (1933-34), under the direction of Sir FLINDERS PETRIE and jointly sponsored by the British School of Archaeology in Egypt and New York University, was reopened on the University Heights campus on December 2, 1952. Mr. HARRIS DUNSCOMBE COLT and Professor CASPER J. KRAEMER, JR., both of whom had participated in the Petrie excavations, presided at the reopening. The bulk of the material dates from the beginning of the second millennium B.C. to the period of the Jewish Monarchy. The collection also contains

Greek and Roman objects. The Museum is usually open during the morning hours and may be visited in the afternoons by appointment with Professor WILLIAM H. STAHL.

Prize in Numismatics

In order to emphasize the importance of numismatic evidence in historical studies, in economic investigations, in the history of art and architecture, and in the history of religion, the American Numismatic Society is offering a prize of \$100 for the most satisfactory paper based in large part on evidence from coins. The competition is open to undergraduate and graduate students in accredited institutions in the United States and Canada. There is no restriction either on the period of time or on the geographical area covered by the paper. It is recommended that papers submitted be copies of those prepared by the applicant in fulfillment of ordinary requirements of his university department. Papers must be received before July 1, 1953 by the Secretary of the Society at Broadway between 155th and 156th Streets, New York 32, N. Y.

Back Number Needed

The stock of copies of *ARCHAEOLOGY* 4.1 (Spring 1951) is at such a low ebb that complete sets of the magazine can no longer be made up. We should therefore like to ask members and subscribers (particularly secretaries of local societies of the *ARCHAEOLOGICAL INSTITUTE OF AMERICA*, who may have received more than one copy) to search out any extra copies they may have and send them to the Business Office, Andover Hall, Cambridge 38, Mass. This favor will be greatly appreciated.

Excavations at Olympia

The German Archaeological Institute in Athens, which is once again functioning, with Dr. EMIL KUNZE as Director, has resumed work at the great site of Olympia. The program, as announced in Athenian papers, is to excavate the remainder of the stadium and then to reconstruct it in its fourth century B.C. form. It is then expected that the stadium may be used for games and contests as in ancient times. There are also plans for the systematic investigation of the Leonidaion.

The Society for the Promotion of Hellenic Studies

(founded 1879)

The Society for the Promotion of Roman Studies

(founded 1910)

The Societies were founded to promote knowledge of the Hellenic and Roman worlds, their archaeology, art and history.

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BRIEF NOTICES OF RECENT BOOKS

India—Ancient and Mediaeval

Taxila. An Illustrated Account of Archaeological Excavations Carried Out at Taxila Under the Orders of the Government of India between the Years 1913 and 1934, by SIR JOHN MARSHALL. In 3 volumes. Volume 1, Structural Remains: xix, 397 pages, 14 figures in text, tables, frontispiece. Volume 2, Minor Antiquities: pages i-xv and 398-895, tables, frontispiece. Volume 3, Plates: xxii pages, 246 plates. Cambridge University Press, [London and New York] 1951 \$70.00

Taxila is the Greek form of the name of a substantial city in the Panjāb, between the Indus and Jhelum rivers and at the junction of three great caravan routes, the place where Alexander, advancing toward the elusive eastern sea, rested his army before attacking Porus. The Sanskrit form of the name was Takshāśilā.

The extensive ruins stand on three mounds. This vast and sumptuously illustrated publication is SIR JOHN MARSHALL's report of his archaeological exploration of these mounds from 1913 to 1934, a period of twenty-two years. The areas are too large, and the strata too deep, for anything like complete excavation; the thorough exploration of the Hellenistic Greek city, for example, awaits the spade of a future excavator.

Indian legends assigned Taxila an

unbelievable antiquity. The oldest settlement explored by SIR JOHN, on Bhīr Mound, dates from no earlier than the sixth century B.C., more likely from the fifth. This was destroyed in the fourth century and rebuilt at a higher level; it is this fourth-century city which Alexander saw. Above this is a third settlement, from the period of autonomy which followed the collapse of Maurya rule.

About 200 B.C. the Bactrian Greeks under Euthydemus moved toward the borders of India, and about 189 B.C. Euthydemus' son Demetrius conquered Gandhara, the Panjāb and the Indus valley, and established his capital at Taxila. For the administrative center of what its founders must have confidently expected to become a great new Hellenistic kingdom, the narrow areas of Bhīr Mound were too cramped, and Demetrius transferred the city to a site now called Sirkap, several miles away. This was a fine planned city in the best Hellenistic tradition, with chess-board pattern and a heavy stone fortification. The Greek rule lasted a century, and then gave way to invading Śaka (Scythians), who likewise occupied the site for about a century, to be succeeded by the Parthians. During these periods the city continued with little change in perimeter or plan. It is the Parthian period which has been most completely and thoroughly dug by MARSHALL and which has produced the bulk of the

abundant and fascinating array of minor finds ("objects illustrative of the daily life of the people") which occupy the principal space in MARSHALL's work.

The third mound, Sirsukh, contains meager deposits dating from the period of Kushān invasion and domination.

The Hellenistic Greek strata have been detected at several points, and dug in one small area. MARSHALL, feeling that some apology to archaeologists is necessary for having concentrated on Parthian finds when he could have prowled among the ruins of the Hellenistic Greek occupation, explains that he deferred exploration of the Greek levels until the superior strata should be thoroughly studied and understood; also, there was danger that the destruction of sacred structures of Jaina or Buddhist origin in the upper levels would arouse resentment among members of those faiths.

Whatever the cogency of these representations, it is clear that in exposing the topography of the site, and the relation of the mounds and the separate strata to each other, and in giving us the instrumentum domesticum of the city of the Parthian occupation in extraordinarily complete detail, he has performed a lasting and incalculable service to scholarship. This is an intensely personal book, written very much in the first person, captious of criticism, and acknowledging little to

DON'T MISS THE MOST SPECTACULAR DISCOVERY in archaeological annals since the opening of Tutankhamen's tomb! In the Spring 1953 issue of *ARCHAEOLOGY* read the excavator's own account of this remarkable find—

The Mystery of the Temple of the Inscriptions, by Alberto Ruz Lhuillier.

Also, in this issue, reports of excavation and research in China, Greece and other parts of the world; a recording of the impact of archaeology on television; and other interesting features, as well as news and reviews of recent books.

assistants or collaborators. With it should be read TARN'S *Greeks in Bactria and India* and the apposite chapters of the *Cambridge Ancient History* and *Cambridge History of India*.

JOTHAM JOHNSON
New York University

Indian Metal Sculpture, by CHINTAMONI KAR. viii, 46 pages, 61 plates. Alec Tiranti, London 1952 7s. 6d.

Any addition to the all too slim bibliography on Indian metal images is to be heartily welcomed at this time when at last the great mediaeval art of India, so long neglected by western students in favor of the earlier Buddhist monuments, is coming into its own. A handbook, conceived as an introduction for the general reader, is especially welcome because the majority of works on Indian metal sculpture are difficult to obtain or are out of print, and many are too specialized for those who seek an introductory familiarity.

In the present work the subject is treated within the broad geographical divisions of Northern India, the Deccan, and the Far South, or Tamil Land. Such a regional division is sound and corresponds to local variations in style, subject matter and presentation. Following a very condensed political history of the three divisions, the author presents a concise essay on the Indian aesthetic canon and on the iconographic positions and gestures of the images as well as ideal proportions. (This latter section is unfortunately marred by numerous errors in plate references and the reader is cautioned to use the *errata* slip attached to the *Table of Contents*.) The remainder of the text is occupied with condensed accounts of the styles of Nepal, Tibet, the Andhra and Chalukya Schools, and finally the great Chola style and its antecedents in South India. The work concludes with a somewhat confusing account of the Indian technique of casting, a more lucid and helpful short chronological table of Indian history, and descriptive notes on the sixty-one plates.

The study of Indian metal sculpture is the newest comer into the field of Indic art and archaeology. Hence, in so uncharted a sea, the reviewer is apt to extol the virtues of his own course rather than seek for what merit there may be in others. Although any serious work such as this is an im-

portant and significant contribution, the reader, nevertheless, should be advised that the author has spread his subject extremely thin in his attempt to include Buddhist, Jain, Hindu and non-religious "folk" metal sculpture from the first to the nineteenth century, and to range as far afield as Nepal and Tibet in a brief handbook. The chronology of Nepalese Buddhist sculpture is extremely uncertain, and on the whole the images are inferior to the more characteristically Indian work of Bihar. It is a matter of some surprise that the author should include sculptures from peripheral Nepal and Tibet and completely disregard the far more accomplished and significant metal sculpture of Ceylon. Nor can brevity explain the omission of at least one example of the very early South Indian images that may lay reasonable claim to a pre-Chola, that is a Pallava, date. Important images of this kind are in the Madras Museum, the Musée Guimet and the Prince of Wales Museum, Bombay. The greatest fault of this work is that it aims at covering far more material than any author could satisfactorily condense.

The need for a book of this kind is manifest and the author is to be congratulated on having accomplished so much within drastic limitations. It is to be hoped that the reception of this preliminary answer to an ever-growing demand will be such as to justify more extensive publications in which Indian metal sculpture can be presented region by region—most especially the important Hindu art of South India—against a more detailed background that will include the religious beliefs which, far more truly than political history, have fed the inspiration and molded the forms of Indian art through the centuries.

LAURENCE SICKMAN
Nelson Gallery of Art
Kansas City, Missouri

Philosophy of History

Prelude to History, by ADRIAN COATES. xviii, 289 pages, frontispiece, 2 plates, 23 figures, 5 maps. Philosophical Library, New York 1952 \$4.75

This short, readable book can be recommended as a stimulating mental exercise, requiring of its readers a calm, contemplative frame of mind, savoring philosophy. It is neither textbook nor

primer nor is it just another frantic survey.

A painstakingly developed introductory chapter probes our knowledge of prehistory by reviewing preconceptions, frames of reference and changing values that hedge about the human race's own study of itself and its beginnings. Prehistory is seen as a peculiar adjunct to the historical discipline. Its truthful delineation is prey to many of the subjective attitudes affecting historical analysis and exposition; but the subject is peculiar in that the interpretations of the facts of prehistoric archaeology, which constitute a prime source for prehistory, also depend upon the disciplines of various scientific fields such as geology, palaeobotany, genetics, physical anthropology, social anthropology, psychology, etc. This introduction and the over-sized footnote 9 on pages 119-121, dealing with the roles of prehistoric human inventiveness, culture contacts, techniques, industries and their interplay, have a sovereign value for the beginner, the general reader and the specialist in the field.

Succeeding short chapters touch on what is known or suspected of the material culture, physical types and mental processes of early man. They are less an exhaustive, balanced selection of facts for beginners, or even an analysis of problems and profitable directions of research for specialists, than they are the observations of one detached, cultivated and very individual thinker concerning known and surmised facts of human prehistory and evolution. The author is concerned with preventing the study of prehistory from becoming abstract and divorced from reality. This series of erudite, provocative essays contains telling criticism of methods and approach, useful admonitions as to what can be believed, sound generalizations, and an appealing bird's-eye view of this terrestrial globe with its human inhabitants evolving through the ages. There is also an impressive undercurrent of a modern Briton's post-war view of the world of humans which it is valuable for post-war Americans to remark: a striking blend of understandable jaundice and fatalism and a notable spirituality.

However, this book has certain of the weaknesses of an expansive one-sided conversation. It presents matters selected by an author perhaps too in-

dulgent of his own ideas, deals brashly with subjects which are each a lifetime's work, and sometimes over-plays facts or theories. Innocent beginners could be misled by some statements here, and perhaps the book was never intended for such. They would be well advised first to seek more judicious and more methodically documented treatments and an explanation of terms elsewhere in a number of readable books and articles, including some listed in the footnotes and bibliography of this book. The general reader and specialist will discover much worthwhile and permissible speculation; but they will find the facts used to illustrate these chapters somewhat confused and will encounter an oddly assorted set of truths, tolerable half-truths and some now out-dated information joined occasionally into an unacceptable line of argument.

Similarly, one is bewildered in the chapters on other fields of investigation where the author moves facts and theories about as in a chess game, often seeming to treat pawns, bishops and queens as equals. This will leave the specialist sputtering qualifications and the lay reader with the impression of how easy it is to manipulate observations on physical characteristics and material culture, speculate on the role of environment, and arrive at a number of perfectly possible, but utterly unprovable, answers.

Paradoxically, however, one will gain much from this book by regarding it as a synoptic and philosophical interpretation teeming with wise generalizations, arresting ideas and perceptive admonitions but one might be grotesquely misled if one accepted blindly portions of its treatment of factual detail in the fields of archaeology, art, psychology and biology.

Peabody Museum,
Harvard University

BRUCE HOWE

African Studies

The Proceedings of the First Pan-African Congress on Prehistory (Nairobi, January 1947), edited by L. S. B. LEAKEY. viii, 239 pages, 6 plates, 19 text figures, 9 tables, 7 maps. Philosophical Library, New York 1952 \$8.75

This long awaited volume shows the natural effects of the rigid condensation to which the editor was obliged to subject most of the original texts, but it is

still a triumph of presentation. As to the contents, we can say truthfully that here is a collection of expert opinions, theories and descriptions which no serious student of African prehistory can afford to be without. But by the same token, reviewing it is much like reviewing a "five foot bookshelf"—to do justice each of the forty-six papers reproduced should be reviewed separately. If it has faults, they are mainly felt in the omission of the floor discussions, in the absence of several texts whose titles are included, and in the fact that some of the material is now more or less obsolete. But these are very minor flaws.

The Congress was divided into three sections dealing respectively with Geology, General Palaeontology and Climatology (Section I), Human Palaeontology (Section II), and Prehistoric Archaeology (Section III). Space limitations prevent a detailed discussion of the material, and so I will try to present here only those points that are of fairly general interest or seem to me of peculiarly basic importance. Thus no author whose contribution has been lightly passed over should feel slighted; this review is not intended primarily for specialists in African prehistory.

In Section III, T. MONOD gave an interesting description of some rock paintings in the western Sahara which he believes are probably Neolithic in date, and constitute the westernmost extension of the "Pastoral Group" of "Hispano-African Art" whose distribution extends clear across the Sahara and the Egyptian desert. The human figures show marked steatopygia; many have animal heads while some carry bows and perhaps round shields as well. They are accompanied by domestic cattle in addition to a savannah type of fauna. In another paper MONOD discussed the presumably later category in which horse-drawn battle chariots and wagons are shown.

The Abbé BREUIL presented a stimulating speculative analysis of a series of paintings from all over South Africa, some even west of the Kalahari Desert, in which there appear human figures reminiscent in both features and clothing of the western Mediterranean, Middle East and Egypt in early classical times, and which he believes are pre-Bantu.

In the matter of Stone Age chronology there were several illuminating discussions although little new evidence was introduced. The late A. RUHLMANN gave a clear and orderly exposition of his interpretation of the industrial sequences in Northwest Africa, from the "Clacto-Abbevillian" which he places in the Lower Pleistocene to the Neolithic of Recent times with influences both from the southeast and from Spain apparent in its pottery techniques and decoration. He equates the local Mousterian with the Würm glaciation of Europe, and dates the Aterian and later industries to post-pluvial (*i.e.*, post-glacial) times. RUHLMANN regarded the Capsian and Ibero-Maurusian as no more than regional variants of a single major industrial tradition.

J. DESMOND CLARK's East African chronology seems to tie in fairly well with those of Egypt as described by S. A. HUZZAYIN, West Africa as described by F. CABU, and Angola as described by J. JANMART. He suggests that the "Acheulio-Levalloisian" of East Africa may have come in from the northwest. It is no surprise to find that CABU and JANMART assign similar datings, around the dawn of the Pleistocene, to the "Pebble Cultures" of the Belgian Congo and of Angola respectively, nor that the chronologies in these areas seem closely parallel to those in East Africa and Mozambique as described by CLARK and L. BARRADAS.

Much evidence was presented in favor of a more or less purely local evolution of certain industries in Egypt, Northwest Africa and South Africa by HUZZAYIN, RUHLMANN and B. D. MALAN. Only CLARK and C. VAN RIET LOWE directly suggested diffusion—of the "Acheulio-Levalloisian" from the northwest into East Africa, and of the "Hand-axe Culture" from some undiscovered mid-African center into South Africa and also northward perhaps as far as Spain and Portugal. VAN RIET LOWE considers the Levallois technique of South Africa as a strictly local and independent development, while HUZZAYIN holds that the Upper Palaeolithic of northern Egypt was developed locally from the Levalloisian.

In Section II there is a concise historical summary by the late Dr. ROBERT BROOM of the discovery and im-

portance of several of the South African "man-apes." Two papers, by W. E. LE GROS CLARK and C. ARAMBOURG, show these outstanding authorities in substantial agreement that the Lower Miocene gibbon-like creature *Limnopithecus* stands near the point of divergence of the hominoid branch of life from the main simian stem.

In a brief note on the palaeanthropic Eyassi skull, LEAKEY argued that it may well be no older than the Upper Pleistocene. R. A. DART in turn suggested that climatic pulsations of the Kalahari favored first the original differentiation of mankind from ancestral South African "man-ape" stocks, and later the development and dispersion of various human varieties. He adds a detailed statement of the evidence for supposing that fire making was known to the *Australopithecinae* of the Transvaal before the use of stone for tools was introduced there by Man.

L. H. WELLS, after reaffirming the unique character of the Florisbad skull, went on to emphasize the apparent local continuity in the lines of development of later South African strains while still admitting the possibility of occasional immigrations of foreign types.

Section I contains little that is very new or of strictly archaeological interest, while most of the various opinions and differences of opinion expressed therein are so complex and technical as to appeal only to specialists in Pleistocene chronology—but these latter will find it well worth their while to take a look for themselves.

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South America—Fact and Fancy

Secret Cities of Old South America. Atlantis Unveiled, by HAROLD T. WILKINS. 468 pages. Library Publishers, New York 1952 \$6.00

Atlantis sank beneath the waves of the Atlantic several millennia B.C. according to Plato, but the island keeps bobbing up, probably raised by the gaseous emanations of its protagonists. WILKINS' latest book—and he reminds us every few pages that he published another one, *Mysteries of Ancient South America* (London, 1946)—finds not

only the castaways from Atlantis but also those from Mu in every uninvestigated nook of South America. And not only the normal human Atlantes who, by the way, knew the secret of levitation and that of producing an ever-burning light, but a grand entourage of fifteen-foot-high giants; lovely, nude, white Amazon warriors, descendants of the original Amazons; dwarfish coal-black troglodytes, the world's oldest race; immense King-Kong-like apes, and other monsters. There are devil trees, "octopods," that grasp the unlucky trespasser in their octopus-like branches and suck his blood, and chloroform trees that anesthetize anyone who approaches within twenty feet. These aren't the half of the marvels and the horrors that await verification by the explorer off the beaten path in the South American forests, not to mention the great masonry cities full of gold treasure.

The ancient Mexicans, by the way, had inherited knowledge of levitation; they had thin resonant stone disks, each attuned to the personal vibration of the owner who desired to be free from the trammels of gravitation.

The author's description (pages 354, 355) of a mounted gaucho, fleeing in terror from an army of flying red ants, "in fighter squadrons and flying in arrowhead formations," is truly magnificent. But the ants cannot compare with another insect (scientific name not given) who signals to a jungle lizard, by means of the red and green lights in its head, of the approach of a human being. And then there is the grub which, when eaten, renews one's youth.

While these marvels will be found in almost any yet-unexplored corner of South America, from Darien in Panama to the Baker Canal in southern Chile and the Venezuela-Guiana "Lost World" region, they center in the middle of Matto Grosso, between 5° and 12° south latitude, and 50° and 60° longitude. Great mountains that have escaped the observation of airplane pilots rear their snow-covered peaks here. Adventurer, hie thee hither! Here are the Secret Cities, and here they were before the uplift of the Andes, which carried Tiahuanaco, then dead and sunk beneath the Pacific, to its present height of 12,000 feet.

As a lagniappe, as contributing proof to the above, similar reports are noted

from many other parts of the world: nine-foot-high giants and white Indians in Sonora, pictographs of tyrannosaurs in Arizona, a flying reptile—blood-brother to the pterodactyl—on an island north of the Philippines. Giant men were contemporaries of the dinosaurs in America in Tertiary times, and probably both survive until today in out-of-the-way places. There are mastodons, too; a large herd of them was observed in the Colombian Andes in 1820. Civilization, however, came much later, not till 30,773 years before the founding of Babylon. This was apparently spread by the numerous arks—for there were at least ten in addition to Noah's. The latter, by the way, is still to be seen, two and a half times as long as the "Queen Mary," on Mt. Ararat. Much of the above pseudo-history is to be found in a very old Frisian book, the *Oera Linda* Book.

WILKINS seems to have delved into every known curious, rare, and esoteric report, ancient or modern, of strange discoveries and happenings, and the book is almost a *corpus* of such data, interesting and valuable per se, and fascinating and challenging to those with the will to believe. Most of the statements of fact capable of facile verification turn out to be incorrect, some of them ridiculously so, such as the one that a perpendicular line through the earth from the site of the great pyramid in Egypt would emerge at a Maya pyramid at Chichen Itza, Yucatan. The bibliography is very large, but mainly of general works, and most of the reports are, as would be expected, undocumented, hearsay, or missing in the bibliography.

Well thought out unorthodox archaeological books have a positive value for their thought-provoking theories. The present reviewer knows of one other anthropologist besides himself who got started down the primrose path to prestige and penury by reading and rereading old IGNATIUS DONNELLY'S *Atlantis, the Antediluvian World* in his schoolboy days. But the present work is hardly of that standard, although entrancing to wandering would-be adventurers and interesting to arm-chair explorers who have the time to read it.

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Two Studies of California Indians

The Four Ages of Tsurai. A Documentary History of the Indian Village on Trinidad Bay, by ROBERT F. HEIZER and JOHN E. MILLS. 207 pages, 3 figures, 6 maps. University of California Press, Berkeley 1952 \$3.75

This readable book provides a welcome addition to the scholarly literature dealing with early Caucasian contacts among Indians of the northern California coast. It should be received warmly by both historian and anthropologist.

Recorded through archaeological and historical documentation is the simple birth, the trying life, and the inevitable death of the Coast Yurok Indian village of Tsurai, Trinidad Bay, California.

The Prehistory of Tsurai presents in descriptive style the archaeology of Patrick's Point and the site of Tsurai. A culture sequence ranging from Early Prehistoric (A.D. 1000?) to Full Historic (1916) was determined for the two sites. The reconstructed life is in harmony with ethnographic accounts of the Coast Yurok.

Discovery and Exploration 1775-1800 provides the first written history of Tsurai. Noteworthy accounts are by the Spaniards, Captain DON BRUNO DE HEZETA and Captain DON JUAN FRANCISCO DE LA BODEGA Y QUADRA in 1775 and in 1793 by the Englishman Captain GEORGE VANCOUVER and his naturalist, ARCHIBALD MENZIES.

The Europeans are cautious of native responses and have interests in the potential resources of the area. The Indian, if considered at all, becomes part of the resources. With wonderment the natives present a child-like approach, are helpful, and express no hostility.

Exploration: The Fur Trade 1800-1849 primarily centers around the sea-otter. Exchanges with the Indians often bordered on if not involved violent hostility. With the natives desirous mainly of metal tools and minor trinkets little impact was made on their cultural pattern. Following 1817 the people of Tsurai were little molested, but as the authors so aptly put it, "These thirty years of grace were, as we shall see, only the lull before the storm which was to break in 1850."

Decline and Fall: The American Invasion 1850-1916 presents several accounts which are rich in ethnographic content. Following the Sierra Nevada discoveries, the report of gold on the Trinity River witnessed a boom for Trinidad Bay. This mass impact on the small village of Tsurai gradually resulted in its depopulation through intermarriage, disease, and homicide until in 1916 it ceased to exist other than in memory. The Indian's reaction was passive resentment devoid of any organized resistance. Villages existed without form or character, respect or protection.

Aside from its archaeological, historical, and ethnographic value there remain the strands of an acculturation study. Though the reader absorbs this information in logical sequence a more extended summary would have been of contributing value.

The cover design, text organization, and illustrations are excellent. Detailed historical and ethnographic notations add considerable appreciation of the original journals. Again, the senior author displays his ability to organize a mass of information into a sequence of interesting and factual events. To what could have been just prehistory has been added the depth and color of historical documentation.

ADAN E. TREGANZA
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The California Indians: A Source Book, by R. F. HEIZER and M. A. WHIPPLE, compilers and editors. 487 pages, 15 illustrations, 12 maps. University of California Press, Berkeley 1951 \$6.50

Aboriginal California was perhaps the most densely populated area of the prehistoric world north of the Rio Grande. Approximately one-fifth of all our Indians were located in the Golden State that embraces one-twentieth of the land of our country. Three-score or more tribes speaking tongues belonging to at least seven great linguistic stocks were crowded into its fertile area.

The public at large knows very little about the Indians of California. But anthropological science knows a good deal. Teaching and research in anthropology at The University of California began at the Berkeley center fifty-one years ago. A. L. KROEBER, trained in the productive research tradition of

BOAS, has stimulated, or himself done, studies of tribe after tribe in the area. KROEBER'S *Handbook of the Indians of California* (1926) summarized all knowledge for all the tribes that was available up to that time. It is a valued and now relatively rare source of reference for the specialist.

This new work as compiled by Professor HEIZER and Dr. WHIPPLE aims to provide the lay reader with a general introduction to the California Indians. Its avowed audience is to be "a lay public." But its real audience will almost certainly be persons with at least a partly professional interest in the California Indians. Except for the four excerpts from early journals that make up the section on "Historical Accounts," every one of the forty-three reprinted articles that make up the book, save the last two, are taken from professional journals or series and represent anthropologists writing for the anthropological record. There is no orienting introduction provided by the editors nor have they written any prefatory statements for the separate selections such as might link them together into a more smooth-running whole. The unsophisticated reader will find the going a bit rough—and the way has not been smoothed for him. Nevertheless, the book packs a lot of information on specific aspects of the cultures of some of the California tribes as well as some general comparative surveys for the state as a whole. Some of the selections will be found inherently interesting by any reader.

Seventy-five of the book's five hundred pages are given over to six articles on California archaeology. The two that are of general significance are by FRANK H. H. ROBERTS, JR., on "Early Man in California" and R. K. BEARDSLEY on "Culture Sequences in Central California Archaeology." Both have implications that reach beyond the boundaries of California. The other four are of very narrow interest for those concerned with very specific localities within the state.

The format of *The California Indians* is most attractive. But of an index not a trace! Nor of a bibliography that would lead one to the many sources on the Indians of California that are not embraced within the covers of the book.

E. ADAMSON HOEBEL
The University of Utah

NEW BOOKS

Selected at the editorial offices from various sources, including bibliographical publications, publishers' announcements, and books received. Prices have not been confirmed.

ANDRAE, WALTER. *Babylon. Die versunkene Weltstadt und ihr Ausgräber Robert Koldewey.* 252 pages, illustrations. De Gruyter, Berlin 1952 DM 18.40

Atti del 1° Congresso Internazionale di Preistoria e Protostoria Mediterranea. Firenze, Napoli, Roma, 1950. 560 pages, 123 figures. Florence 1952

Aus der Schatzkammer des antiker Trier. Neue Forschungen und Ausgrabungen. Festgabe des Rheinischen Landesmuseums Trier zum 150 jährigen Bestehender Gesellschaft für nützliche Forschungen 1801-1951. 132 pages, 29 plates (9 in color), numerous figures. Paulinus-Verlag, Trier 1951

BANTI, L., and L. PERNIER. *Il Palazzo Minoico di Festòs.* Volume 2. xii, 652 pages, 4 plates (1 in color), 309 figures. Libreria dello Stato, Rome 1952 Lire 15,000

BÖMER, F. *Rom und Troia. Untersuchungen zur frühgeschichte Roms.* 127 pages, map. Baden-Baden 1951 \$4.00

BONNET, H. *Reallexikon der ägyptischen Religionsgeschichte.* 883 pages, 199 figures. Berlin 1952 \$25.00

BOUSQUET, J. *Le trésor de Cyrène.* 116 pages, illustrations. De Boccard, Paris 1952 (École française d'Athènes, Vol. 2) \$13.50

BOVINI, G. *Rassegna degli studi sulle catacombe e sui cimiteri "Sub Divo."* 168 pages, 82 figures. Rome 1952 (Collezione Amici della Catacombe, 18) Lire 800

BROM, LEO H. M. *The Stevensweert Kantharos.* iv, 29 pages, 9 plates, 6 figures. M. Nijhoff, The Hague 1952 Guilders 15

BÜHLER, J. *Der Beginn abendländischer Kultur.* 64 pages, map. Cologne 1952

COATES, ADRIAN. *Prelude to History.* 289 pages. Philosophical Library, New York 1952 \$4.75

COLLART, P., and P. COUPEL. *L'Autel monumental de Baalbek.* 153 pages, 96 plates. Geuthner, Paris 1951 (Institut français d'Archéologie de Beyrouth. Bibliothèque archéologique et historique, Vol. 52)

DAVIDSON, GLADYS R. *Corinth. Volume 12. The Minor Objects.* xii, 366 pages, 148 plates, 83 figures. American School of Classical Studies at Athens, Princeton 1952 \$25.00

DELOUGAZ, P. *Pottery from the Diyala Region.* xxii, 182 pages, 204 plates (16 in color), 3 tables. University of Chicago Press, Chicago 1952 (Oriental Institute Publications, 63)

Festschrift Andreas Rumpf zum 60. Geburtstag dargebracht von Freunden und Schülern. 168 pages, 32 plates, 12 figures. Krefeld 1952 \$6.50

FINEGAN, JACK. *The Archeology of World Religions.* xl, 599 pages, 260 figures, 9 maps. Princeton University Press, Princeton 1952 \$10.00

FREMERSDORF, F. *Figürlich geschliffene Gläser. Eine kölnner Werkstatt des 3. Jahrhunderts.* iv, 31 pages, 23 plates, 9 figures. De Gruyter, Berlin 1951 (Römisch-germanische Forschungen, 19)

GASTER, T. H. *The Oldest Stories in the World.* x, 238 pages, 12 figures. Viking Press, New York 1952 \$5.00

GORDON, ANTOINETTE K. *Tibetan Religious Art.* 100 pages, 45 plates. Columbia University Press, New York 1952 \$10.00

GRIFFIN, JAMES B., editor. *Archeology of the Eastern United States.* x, 392 pages, 205 figures. University of Chicago Press, Chicago 1952 \$10.00

GURNEY, O. R. *The Hittites.* xv, 232 pages, 32 plates, 19 figures. Penguin Books, Harmondsworth 1952 \$0.85

GUTKIND, E. A. *Our World from the Air. An International Survey of Man and His Environment.* Unpaged, 400 illustrations. Doubleday & Co., New York 1952 \$7.50

HAMILTON, HENRY W. *The Spiro Mound.* 124 pages, 152 plates. Columbia, Missouri 1952 (The Missouri Archaeologist, Vol. 14) \$3.00

HEINISCH, PAUL (WILLIAM HEIDT, translator). *History of the Old Testament.* xviii, 492 pages, 25 figures. The Liturgical Press, Collegeville, Minnesota 1952 \$6.50

HEYERDAHL, THOR. *American Indians in the Pacific. The Theory behind the Kon-Tiki Expedition.* xv, 797 pages, 90 plates, 11 maps. Allen & Unwin, London 1952 \$12.50

HILL, H. *The Roman Middle Class in the Republic.* 226 pages. Macmillan, New York 1952 \$3.00

JANSON, S., and O. VESSBERG, editors. *Swedish Archaeological Bibliography, 1939-1948.* 360 pages. Swedish Archaeological Society, Stockholm 1951 \$7.00

JOHNSON, EYVIND. *Return to Ithaca.* x, 474 pages. Thames and Hudson, New York 1952 \$4.00

KARLGREN, BERNHARD. *A Catalogue of the Chinese Bronzes in the Alfred E. Pillsbury Collection.* 228 pages, 114 plates. University of Minnesota Press, Minneapolis 1952 \$25.00

KITTO, H. D. F. *Greek Tragedy: a Literary Study.* 410 pages. Barnes & Noble, New York 1952 \$5.25

KOEFOED-PETERSON, O. *Catalogue des sarcophages et cercueils égyptiens.* 52 pages, 52 plates. Copenhagen 1951 (Publication de la Glyptothèque Ny Carlsberg, 4) Kr. 15

LAURENT, V. *La Collection C. Orghidan. Documents de sigillographie byzantine.* 344 pages, 70 plates. Paris 1952 \$16.50

LIPPOLD, G. *Antike Gemäldekopien.* 164 pages, 24 plates. Verlag der Bayerischen Akademie des Wissenschaften, Munich 1951

MANCHIP WHITE, J. E. *Ancient Egypt.* 224 pages, 48 plates. Ambassador, New York 1952 \$4.25

MEDIONI, G. *L'Art Tarasque du Mexique.* 48 plates. Hartmann, Paris 1952 750 fr.

Meisterwerke vorgeschichtlicher Kunst. Portfolio, 32 plates. Tübingen 1951 \$8.00

MEYER, PETER. *Byzantine Mosaics. Introduction.* 14 color plates. Oxford University Press, New York 1952 \$6.50

NILSSON, MARTIN P. *Opuscula Selecta II.* viii, 628 pages, 8 figures. C. W. K. Gleerup, Lund 1952 (Skrifter utgivna av Svenska Institutet i Athen, Vol. 2, part 2) Sw. crs. 55

NUNN, H. P. V. *Christian Inscriptions.* 72 pages. Philosophical Library, New York 1952 \$2.50

PALLOTTINO, G. *Etruscan Painting.* 64 color plates. Skira, New York 1952 \$12.50

SARTON, G. *A History of Science: Ancient Science through the Golden Age of Greece.* xxvi, 646 pages, 103 figures. Harvard University Press, Cambridge 1952 \$10.00

SELTMAN, CHARLES. *A Book of Greek Coins.* 32 pages, 48 plates, 1 map. Penguin Books, Harmondsworth 1952 \$0.95

SPRATER, F. *Das römische Eisenberg. Seine Eisen- und Bronze-Industrie.* 46 pages, figures. Speyer 1952 Sw. fr. 3

SWANN, NANCY LEE. *Food and Money in Ancient China.* 482 pages, plus facsimile Chinese text. Princeton University Press, Princeton 1952 \$10.00

WADE-GERY, H. T. *The Poet of the Iliad.* 102 pages. Cambridge University Press, New York 1952 \$4.00

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